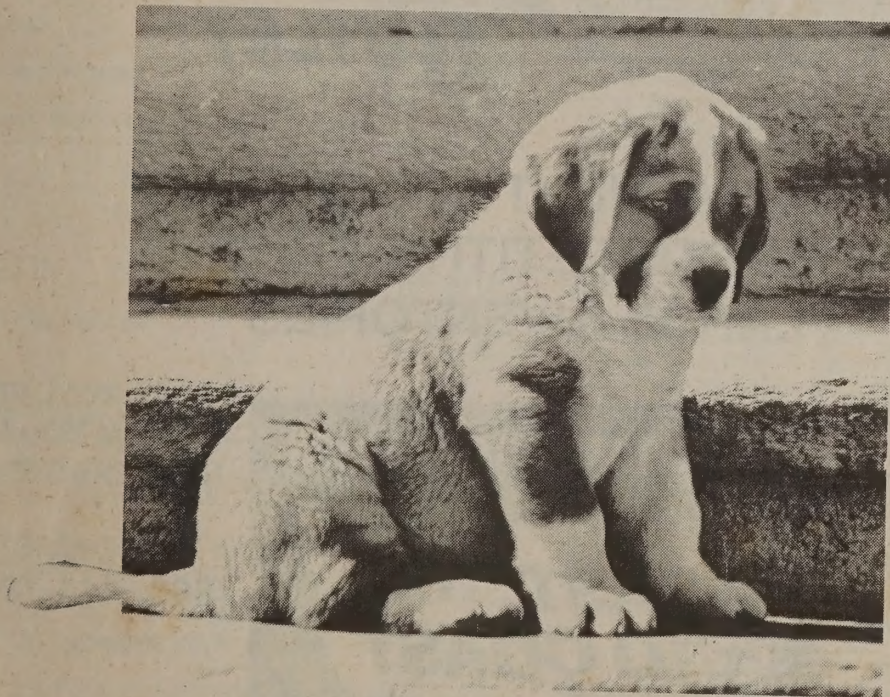


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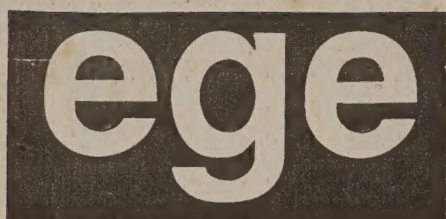


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Editor's EDITORIAL

This month's Silent Key column lists the names of several well known pioneers of Amateur Radio. This should give us all pause to consider some very sobering thoughts.

Even Radio Amateurs are not immortal. And, since Amateur Radio got its start in the teen years of this century, it is inevitable that we should now be losing our earlier pioneers. This all a part of Nature's plan. But somehow there is a tendency for each of us to reject the thought that **we** will not be here forever - or that our own family and other loved ones will not be with us always. Facing up to these facts and making appropriate plans can make life easier for everyone.

How many times have we regretted that we did not give more time and attention or more praise to a loved one while they were still active enough to "smell the roses?" The flowers delivered after they are gone can never take the place of the few minutes of time it would have taken for a friendly visit or a telephone call or a brief note saying how much we appreciate all the things they have done. Let's take that time now, to make sure we do not have reason to regret those things we **wish** we had done - and didn't.

And let's face up to your own mortality. Don't procrastinate about getting your will in order and your family advised of your wishes. Make sure **someone** knows about your financial affairs and can carry on if you have a debilitating illness. There have been too many insurance policies lost because someone neglected to pay the premiums after he/she became ill. Also, you may find that, after illness strikes, the law will then consider you "incompetent" to make decisions and will not honor any changes you may want to make in your will or other affairs.

A few minutes of thought given now can make so much difference later on.

DO IT NOW

Ethel Smith, K4LMB

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Coming Events

- April 1 - 2 Greater Baltimore Hamboree & Computerfest. See flyer on page 30
- April 1 K4NAA Special Event. See details on page 47
- April 8 QCWA Annual Banquet - For ALL Area Amateurs. See flyer page 39
- April 16 Goddard Amateur Radio Club Amateur Radio & Computer Swap Meet
NASA Goddard Recreation Center, Greenbelt, Maryland. See page 24
- April 15-16 Raleigh Hamfest, Raleigh, North Carolina. See flyer on page 54
- April 28-30 Dayton Hamvention, Dayton, Ohio. See page 46
- May 19-20 ARRL Atlantic Division Convention, Rochester, NY
Nominations solicited for 1989 Amateur of the Year. See page 34
Contact: Richard Goslee, K2VCZ; 24 Elaine Drive; Rochester, NY 14623
- May 20 Roanoke Division League Planning Meeting, Ripley, WV. See page 53
- May 20 Armed Forces Day Special Event
- May 21 Wheeling Hamfest, Wheeling, West Virginia
This is West Virginia's largest Hamfest. For information, contact:
TSRAC, Box 240, RD 1, Adena, OH 43901 (614) 546-3930
- May 28 Maryland FM Association Memorial Day Hamfest, West Friendship, MD
See flyer page 42
- June 2 - 4 ARRL NATIONAL CONVENTION, Fort Worth, Texas
- June 24-25 Field Day
- Sept 10 GAITHERSBURG HAMFEST
- Sept. 16-17 Virginia State Convention, Virginia Beach, VA
- Oct. 20-22 QCWA Nationl Convention, Baton Rouge, LA

- 1990 June 8-10 ARRL National Convention, Kansas City, Mo

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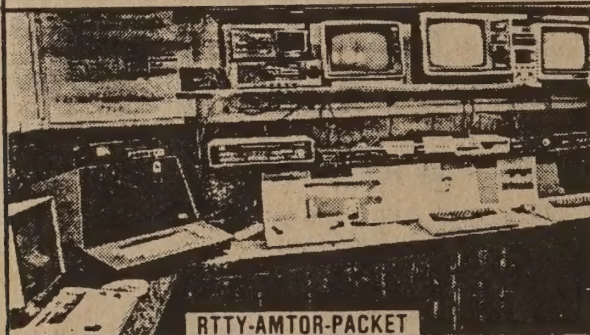
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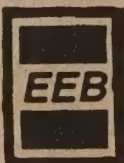
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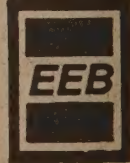
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FCC HIGHLIGHTS

by Bill Grenfell W4GF

"The FCC has opened the 18 MHz band for Amateur operation. "Stations with General, Advanced and Extra Class operator's licenses began using the ...band as of 0001 UTC on January 31, 1989. "A1A (CW) emissions may be used in the whole band from 18.068 to 18.168 MHz; digital emission F1B, used for direct printing, telemetry, telecommand and computer communications, is permitted below 18.110 MHz, and analog emissions such as FAX, SSTV and phone may be used from 18.110 on up. "The normal power limit of 1500 watts output applies, but Amateur operations must not cause harmful interference to US government Fixed Service operations. "The authorization is contained in a Report and Order in PR Docket 88-467. "Under its terms and those of WARC-79, the band becomes exclusively Amateur on July 1, 1989." (Westlink Report, 02/17/89). "In its news release, the FCC said that the Department of Defense (DOD) was still utilizing major portions of the 17 meter band and would continue to do so until July 1, 1989. "However, DOD had agreed to allow secondary use of the band by US Amateur stations, subject to immediate termination if interference is caused to Government operations." A letter was sent to FCC by ARRL thanking them for "...their timely handling of the opening of the 17 meter band to Amateur use prior to July 1 1989." (ARRL Letter, 02/11/89).

A Frequency Spectrum chart published by ICOM, dated August 1988, is in error in that it "...shows the Advanced portion of the 15 meter phone band beginning at 21.220 MHz. "It actually begins at 21.225 MHz. ICOM has taken steps to correct it. (ARRL Letter, 02/28/89).

On February 3, FCC "...issued an Order of Revocation and Affirmation in the case of group of 11 Amateurs from Puerto Rico who, according to the FCC, committed fraud in obtaining Amateur licenses or upgrades, or who fraudulently certified that others had passed examinations for

Amateur licenses. "The Order says that the violations arose in connection with 3 W5YI VEC sessions held in....Puerto Rico on..." 08/16, 08/30 and 10/04, 1986. The FCC found that the six examiners: "...had assisted others in obtaining Amateur licenses by fraudulent means, and had misrepresented material facts to the FCC. The five candidates: "...were found to have obtained Amateur licenses by fraudulent means." Two of the 11 Amateurs had surrendered their licenses for cancellation. "Three of the examiners ...had their operator licenses suspended for six months... " The remaining six Amateurs had their operator licenses suspended for the remainder of the license term and their station licenses revoked. (W5YI Report, 02/15/89; ARRL Letter, 02/28/89; FCC PR Docket No. 88-214).

A long-term Technician class licensee requested that senior citizens of at least sixty five years age holding Amateur operator licenses for 20 years or more be upgraded, without taking the required examinations, from technician class to general class; general class to advanced class; and advanced class to Amateur extra class. It was denied by FCC's Private Radio Bureau Chief. "Upholding the Bureau's action, the Commission found no evidence that the action of the Bureau conflicted with any statute, regulation, case precedent or established policy. In addition, it found no showing that the Bureau's action involved a law or policy not previously resolved by the Commission.

FCC's proposed Part 97 rules on Reorganization and Deregulation of the Amateur Radio Service includes Section 97.122 which reads: "The FCC may restrict operations as necessary to prevent harmful interference."

In their comments ARRL referred to FCC's misplaced reliance on the marketplace to address this issue. On that basis ARRL had demanded the Commission modify proposed 97.221 to permit Amateur

FCC HIGHLIGHTS - Continued

operators only be curtailed when interference is caused to "receivers of good engineering design, including adequate selectivity characteristics." The Electronic Industry Association very strongly opposed this proposal. "EIA opposes any regulations that implicitly requires a determination concerning what constitutes good engineering design and adequate selective characteristics. Nor should any such standards be considered by the Commission." "Many ham operators feel that the new 97.221 lets manufacturers off the hook and allows the FCC to take the easy way out - that being to assign quiet hours more readily. "The EIA also appears to redefine RFI as a lack of skill on the part of the ham operator rather than an electromagnetic compatibility problem that should be dealt with in design and manufacture." (W5YI Report, 02/15/89).

"Since Uniden and Radio Shack began advertising their respective 'affordable 10 meter radios' there has been a lot of Amateur concern about the rig being purchased and used by unlicensed persons." "The Tandy/Radio Shack has notified potential purchasers, and purchasers of the equipment, of the FCC licensing requirements in at least four ways: in their advertising, on the box, on the equipment, and in the instruction manual. "There is no legal requirement that a potential costumer prove he/she is licensed before a transmitter is sold." The ARRL has long supported a point-of-sale proof-of-licensing requirement for obtaining transmitting equipment. "In the deregulatory environment of the past decade, and with the budgetary constraints under which federal agencies like the FCC are now operating, there has been no reasonable possibility of promoting such legislation." (ARRL Letter, 02/11/89; W5YI Report, 02/01/89)

"Ham Radio now faces another double-edged sword in Washington as a result of a December 19, 1988 Order that has given the Chief of the Private Radio Bureau additional authority to make "non-substantive changes and minor clarifying and

conforming changes" to the rules relating to the private radio services without going through the issuance of either Notices of Inquiry or Notices of Proposed Rule Making. "Matters raising either novel questions of law, fact or policy will still be reserved for full Commission action under the Administrative Procedures Act. "This order is bound to bring many requests for rulings directly to PRB Chief Ralph Haller, without the constraints of public notice, comment and lengthy Commission review. "On one level it means that minor changes in the rules sought by Amateurs can now be expedited, but it also opens the door to those individuals and groups who are anti-Amateur Radio, or who want to dilute the Amateur Radio Service with the same result." (Federal Communications Tech News/Westlink Report, 02/04/89).

Calling attention to an editorial in the July 1987 issue of QST, ARRL's Executive V.P. noted, in the February 1989 QST editorial (titled No "Safe Harbor" for Indecency), that FCC recently was given (in Public Law 100-459) an explicit mandate to enforce the prohibitions against broadcast obscenity and indecency on a 24 hour-per-day basis. He wrote: "It is reasonable to assume that the same standard applies to us. "Section 97.119 as presently written prohibits the transmission of 'communications containing obscene, indecent, or profane words, language, or meaning,' so no new rule is necessary; it is simply a question of the extent to which the Commission will enforce the existing one." [The July 1987 editorial had noted that "... while there was a blanket prohibition on obscenity, indecent material broadcast during the 'wee hours' (when, presumably, children are asleep) would not be subject to sanctions].

Expansion of the Six Meter repeater subband to include 51-52 MHz has been proposed by FCC in PR Docket 88-527. Expansion was proposed by two southern California clubs in order to accommodate growing numbers of repeaters there. FCC had expressed concern "...for the effect the expansion may have on the present users

FCC HIGHLIGHTS - Continued

of that segment. The comment period has ended. However, FCC's disposition of this rule-making was not available as this was written. (Westlink Report, 02/03/89)

In Docket 85-301, the FCC subjected cable system terminal devices (CSTDs) to field strength emission limits of Part 15 of the of the rules, rather than the more stringent Part 76 , thus permitting RF leakage at higher levels than previously allowed. The National Cable Television Association (NTCA) suggested that internally generated cable signals be subject to the more stringent Part 76 limits, whereas externally generated signals that enter the cable system through cable terminal devices be subject to Part 15 standards. Noting experience with cable ready TV receivers or VCRs, FCC advised we feel that it would be unnecessarily burdensome and costly to require manufacturers of CSTDs to comply with tighter emission standards when their devices pose no greater threat than cable-ready television receivers or VCRs. Therefore FCC will continue to apply Part 15 limits to CSTDs. (Westlink Report, 02/03/89).

A Iowa Extra Class Amateur licensee, AK0Q, has petitioned FCC to change the Extra class title to: "Master of Communications", a title "...which may be more widely recognized as having the highest rank among all Amateur radio licenses." The FCC assigned file number RM-6648 and a 30 day public comment period ending February 23 1989. (W5YI Report, 02/01/89).

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END-OF-MONTH LICENSE TOTALS

	DEC 1988	JAN 1989
EXTRA	46,885	47,221
ADVANCED	98,681	99,164
GENERAL	113,082	113,823
TECHNICIAN	101,495	102,931
NOVICE	80,168	81,028
TOTALS	440,311	444,167

Gf

Foundation Meetings

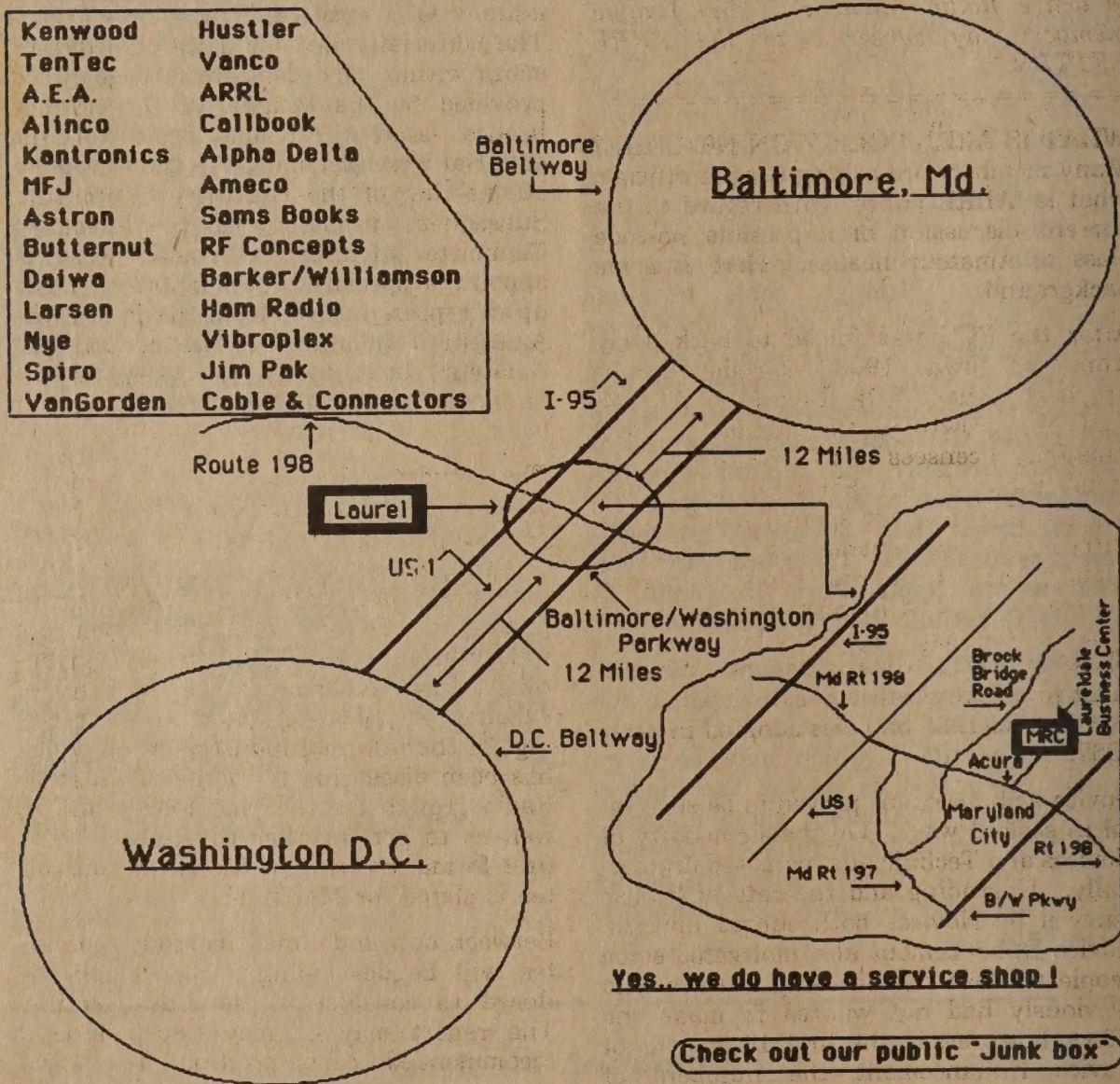
The Foundation for Amateur Radio meets at 8:00 p.m. on the second Wednesday of each month. Meetings usually alternate between Maryland and Virginia. Visitors are always welcome. The next meeting will be held at the John Marshall High School in Falls Church Virginia on April 12. The Foundation is a 501-C(3) non-profit organization made up of over 50 clubs in the greater Washington area. Activities include sponsoring the Gaithersburg Hamfest, the FAR Scholarship program, Widow's Assistant program, and the Auto-Call Magazine. Membership is open to all Amateur Radio organizations in the local area. For further information write to Corresponding Secretary Irene Akers, W3RXJ, 2443 St. Clair Drive, Temple Hills, MD 20748 Phone (301) 423-7138, or Recording Secretary Mary Morris, N4TCI at (703) 971-3905.

Maryland Radio Center - Location Strip Map

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American Radio Relay League Report

By John Swafford - W4HU

This ARRL Report provides a brief summary of information published in the ARRL LETTER and other reports. The LETTER provides timely news of interest to active Radio Amateurs. Any League member may subscribe to the ARRL LETTER.

=====

WHAT IS ARRL POLICY ON NO-CODE?

Many members are asking League officials what is "ARRL policy" with regard to the current discussion of a possible no-code class of Amateur license. Here is some background.

After the FCC was forced to back away from its own 1983 no-code license proposals, the ARRL Board established goals for growth in the number of FCC Amateur licensees and in the ARRL membership. Given that at the time there was strong sentiment against reducing the entry-level requirements for an Amateur license, ARRL looked for ways to improve the marketing and increase the attractiveness of the existing entry-level license. These efforts led to the Novice Enhancement proposal which was submitted to the FCC in mid-1985 and was adopted in early 1987.

Novice Enhancement proved to be successful in several ways. On-the-air activity of Novices and Technicians increased dramatically. Upgrading and the rate of license renewal by Novices both surged upward. Novice Enhancement also motivated some people to clear the licensing hurdles who previously had not wanted to make the effort; however, in the first 18 months of Novice Enhancement the numbers of licensees did not increase as much as had been hoped. The FCC decision to reallocate 220-222 MHz (the fight for which is far from over!) caused many Amateurs to attribute new significance to the issue of growth. This, coupled with widespread publicity about the expected phasing out of Morse code in the maritime service, suggested the time may have come for another look at entry-level requirements.

Last November, ARRL President Larry Price, W4RA and Executive Vice President Dave Sumner, K1ZZ, collaborated on preparation of an editorial for the January issue of QST entitled, "Why Morse Code?" The editorial called for a rational discussion, within the democratic framework provided by the League, of the no-code license issue. Advance copies of the editorial were distributed at the December 10 meeting of the Executive Committee. Subsequent discussion led the Executive Committee to instruct President Price to appoint a special study committee, made up of representatives from the Board, the Amateur community at large, and the Amateur Radio industry, to explore the implications of a no-code class of Amateur license.

The study committee was appointed January 9 (see ARRL Letter, Vol 8 No. 1 January 13, 1989) under the chairmanship of Vice President George Wilson, W4OYL, and immediately began its work by correspondence. Several committee members were present at the Florida State Convention (Miami Hamboree) the weekend of February 4 and were able to attend meetings of the informal industry group which has been discussing the issue of Amateur Radio growth for the past four years, as well as to get together themselves. The first formal meeting of the study committee is slated for March 11.

Between now and June, the study committee will be developing a report for the Board to consider at its July meeting. The report may or may not include a recommended League position. The Board may or may not accept such a recommendation. ARRL policy will be whatever eventually garners the support of a majority of Directors. There's no way anyone can know at this time what that will be.

In the meantime, a reasonable statement of ARRL policy that reflects the Executive Committee's December 10 action is that the subject deserves careful study over the

(Continued)

ARRL REPORT - Continued

next several months. Any member wishing to provide an input to that study should be encouraged to address the study committee members, either individually or c/o ARRL HQ, as well as their own Director.

W1AW RENOVATION BEGINS!

Construction work on the renovation of W1AW is now beginning, and is scheduled to be completed in time for ribbon-cutting in July. During the reconstruction, W1AW will operate from temporary quarters in a trailer adjacent to the present building and the same antenna system will be used.

During the moving some scheduled transmissions may have to be omitted, and operation by visitors may have to be curtailed during certain periods.

WASHINGTON SECTION DIVIDED.

The Washington (State) Section has been divided into two ARRL Sections, Eastern Washington and Western Washington, effective February 6, 1989. Tom Plaisance, KC7PH, has been appointed Section Manager of the new Eastern Washington Section. Bradley Wells, KR7L, continues as Western Washington Section Manager.

The new sections consist of the counties West and East of the Cascade Mountain range. The Western Washington Section comprises the counties of Whatcom, Skagit, San Juan, Island, Snohomish, King, Pierce, Thurston, Clallam, Jefferson, Mason, Kitsap, Grays Harbor, Pacific, Lewis, Wahkiakum, Cowlitz, Clark and Skamania. The Eastern Washington Section comprises the counties of Okanogan, Chelan, Douglas, Kittitas, Yakima, Klickitat, Benton, Franklin, Walla, Adams Grant, Lincoln, Ferry, Stevens, Pend Oreille, Spokane, Whitman, Columbia, Garfield and Asotin.

ARRL 8th COMPUTER NETWORKING CONFERENCE. The eighth ARRL Amateur Radio Computer Networking Conference will be held on Saturday, October 7 1989 at the Air Force Academy in Colorado Springs, Colorado. Topics

this year are expected to include HF packet modems and protocol, AX.25 Versions 2.1 and 3.0, packet satellites, higher level protocols network development, and international matters.

Prospective contributors should request an author's kit and identify the topic of their paper immediately. Author kit requests and papers should be sent to Lori Weinberg at HQ.

The deadline for receipt of camera-ready manuscripts is August 28, 1989. Proceedings will be available at the conference and by mail from HQ.

FIRST 1296-MHz WAC AWARDS. It has been nearly 13 years since the first VHF/UHF WAC was achieved on 432 MHz, and recently the barrier was broken on 1296 MHz as well!

According to Eileen Sapko, ARRL Awards Manager, the first 1296 MHz World and North American WAC awards have been achieved by Willy Bauer, LX1DB, and Allen Katz, K2UYH, respectively. LX1DB's award was achieved in January and K2UYH's in February 1989.

AMSAT 10 METER NET OPERATIONAL.

A new educational 10 meter net began operations February 12. Sponsored by AMSAT, the weekly net meets on Sundays at 1900 UTC on 28.460 MHz.

The frequency was chosen was to promote Novice/Technician class licensees operating, and to introduce them to OSCAR satellites.

A wide range of satellite-related topics will be discussed on the net. The level of all discussions will be "introductory" in nature.

GENERAL MOTORS HAM SURVEY. Do you operate your ham rig mobile from a GM truck? If so, GM is looking for some information from you.

General Motors is conducting a survey of Amateur Radio use in medium and heavy duty trucks. If you operate your rig in one of these units, please write and describe the bands you operate on, the

ARRL Report -Continued

power output and antenna location. Send responses to the following address:

EMC Department
General Motors Proving Ground
40-EMC
Milford, MI 48042

MHz. ICOM has been made aware of the problem, and has taken steps to correct it. All future printing of these charts will reflect the changes.

(TNX: Mel Frerking, KB4MQ)

ERROR IN ICOM FREQUENCY CHART NOTES. If you utilize the frequency spectrum chart developed by Gordon West, published by ICOM, and dated August 1988 you should be aware of an error.

The chart shows the Advanced portion of the 15 meter phone band beginning at 21.220 MHz. It actually begins at 21.225

"THANKS FCC" FROM ARRL PRESIDENT PRICE. The following letter was written by ARRL President Larry Price, W4RA, to the FCC in response to their timely handling of the opening of the 17 meter band to Amateur use prior to July 1, 1989.

The letter follows:

Mr Ralph Haller
Chief, Private Radio Bureau
Federal Communications Commission
Washington, DC 20554

Dear Ralph,

On behalf of the US radio Amateurs, I would like to thank you, and through you, everyone else who had a hand in it, for the commissions's prompt action on PR Docket 88-467. Even for a relatively non-controversial matter, 4-1/2 months from NPRM to final action is very prompt work.

We deeply appreciate that you were able to arrange for the granting of immediate, temporary authority for Amateur operation in the new 18-MHz band. If you've had a chance to listen, you'll have noticed that US Amateurs are already putting the allocation to considerable use. Even I was able to get on at 0001 UTC and QSO a station in Nova Scotia!

Thanks again for your efforts on this matter. Best personal regards.
Sincerely,

Larry E. Price, W4RA
President

PACKET SPEAKERS SOUGHT FOR DAYTON. Bob Neben, K9BL, Packet Forum Moderator for the 1989 Dayton HamVention is looking for volunteer speakers for the April 28 forum. Bob is looking for "the guru, the world authority on that particular subject."

Bob prefers "show and tell" presentations that include "hands on" demonstrations that can be passed around. If you are

interested in helping out at the forum, please contact Bob via Compuserve's HamNet or EasyPlex. (TNX Gateway)

MAXIM MEMORIAL AWARD: NOMINATE NOW! Now is the time to find that special young Amateur who is setting a fine example of public service, education and goodwill through his or her Amateur Radio efforts.

(Continued)

ARRL Report - Continued

The Hiram Percy Maxim Memorial Award is given annually to the licensed radio Amateur under the age of 21 whose accomplishments and contributions are of the most exemplary nature within the framework of Amateur Radio activities, including, but not limited to, the following: Participation or leadership in organized affairs at the local or national level; technical achievement; operating record; recruitment and training of new Amateurs; and public relations activities. If you know of a deserving individual, please notify your Section Manager as soon as possible (SMs submit all nominations). Supporting information and endorsements by ARRL affiliated clubs will be reviewed by the award panel.

The winner will receive a cash award of \$1000, a suitably engraved plaque, and travel and accommodation expenses to enable attendance at an ARRL convention at which formal presentation will be made.

The Hiram Percy Maxim Memorial Award is intended to provide a tangible reward to those deserving young Amateurs who contribute their time, skills and energies daily through their commitment to Amateur Radio.

Nominations must be received at HQ prior to June 12, 1989. That means that you, the ham community at large, must contact your SM with the name of your nominee as quickly as possible. There is no limit to the number of nominations that may be submitted.

17 METER BAND OPEN!! On the morning of January 30, the FCC issued a news release which announced the opening of the new Amateur 17-meter band (18,068-18,168 MHz) that very evening at 0001Z, January 31 (7:01 PM EST)!

A copy of the news release was obtained by ARRL Counsel Chris Imlay, N3AKD, and faxed to HQ. A bulletin announcing the opening of the new band was immediately sent over W1AW. Word spread quickly; at 0001Z that night it was wall-to-wall signals to usher in US entry to the new band. W1AW worked 70

stations that evening before the band closed. The 17-meter band is one of three new HF bands allocated to the Amateur service by the 1979 World Administrative Radio Conference (WARC).

The other two bands, 30 meters (10.1-10.150 MHz) and 12 meters (24.890-24.990 MHz) have already been allocated to the Amateur service.

Early US Amateur occupancy --- it was to become exclusively Amateur on July 1 --- was contingent upon the relocation of certain US government stations that had informed the FCC of their continued presence to that date. But the FCC said it would continue to monitor usage looking for possible early entry for US Amateurs.

On September 28, 1988 the ARRL filed a request for temporary use of the 17-meter band, pointing out that over 60 countries already allowed their Amateur access to the band, and the additional US Amateur stations using the band would not cause any significant additional interference to the remaining Government fixed stations. The request was renewed in our comments in PR Docket 88-467, filed on October 31.

In its news release, the FCC said that the Department of Defense (DOD) was still utilizing major portions of the 17 meter band and would continue to do so until July 1, 1989. However, DOD had agreed to allow secondary use of the band by US Amateur stations, subject to immediate termination if interference is caused to Government operations. After July 1, the band will be exclusively Amateur. Until then, Amateurs also are obligated to avoid interfering with stations in the fixed service operating in other countries.

The band is open to all General, Advanced and Extra class licensees with a maximum output power of 1500 watts. As recommended by all IARU regions, the telegraphy emission A1A is permitted in the entire band, with RTTY/packet recommended from 18.100-18.110 MHz. SSB/analog subband is from 18.110-18.168 MHz.



PUBLIC SERVICE REPORT

Hank Black - N3ESR

Material for the PUBLIC SERVICE REPORT can be left on the N4QQ PBBS (145.03,.05 or via DCA3) addressed to N3ESR, called over the telephone by modem on arrangement or mailed to Public Service Report, 105 North Van Buren Street, Rockville, Maryland 20850-1860. Deadline for receipt of material is the fifth of the month.

Anne Arundel County to Conduct Drill

The Office of Emergency Preparedness (OEP) has announced a countywide drill for April 15th to take place at the Cox Creek Water Treatment Plant.

A meeting is scheduled for 7:30 p.m. on April 4th in the Office of Emergency Management. Those amateurs interested in participating in the drill should attend this meeting and can contact Nancy Alley, KD3KJ, at (301) 766-0129 for more details.

Prince Georges County RACES/ARES On Alert

At approximately 3 p.m. on Monday, March 6, Prince Georges County RACES/ARES was alerted to a possible snow emergency. George Dewees, KA3KIF, Southern Prince Georges County Emergency Coordinator (EC) began notifying RACES/ARES members and the rest of the amateur community of the snow alert.

Checkins were being requested for net operations on 147.18 MHz, on the Tri-County repeater and on 147.15 MHz, the SMARC repeater. Alan Felsen, KA3TSL, from the University of Maryland group was first to arrive at the Office of Emergency Preparedness (OEP) with George, KA3KIF, arriving shortly thereafter.

Gary Mentro, WB3JRW, Northern Prince Georges County EC was advised of the developing situation. About 6:30 p.m., television stations were advised of the need for 4-wheel drive vehicles and drivers. This produced several responses. At 6:35 p.m., Prince Georges County was placed on Snow Emergency status and all RACES/ARES and other amateur operators were so advised and requested to monitor 147.18 MHz for additional instructions.

Montgomery County Radio Officer N3ESR, Hank Black, was contacted in order to establish coordination of 4-wheel drive programs in the event of possible inter-county transportation requests.

Nets were active until 2 a.m. when it was decided to suspend operations until 6 a.m. Tuesday. As the situation improved RACES/ARES and other volunteers were notified that operations would be closed down at 8:30 a.m.

Prince Georges County RACES/ARES would like to thank all the volunteers who checked in and helped with vehicle operations and communications. In addition, thanks to the Tri-County Repeater Association and the SMARC repeater owners for the use of their repeaters during the event and the University of Maryland Amateur Radio Station for volunteering the use of their station for the duration of the emergency.

(Continued)

Public Service Report - Continued

The following volunteers were identified from checkin logs (several were missed as not all information was available at press time): N3DNQ, WB3JRW, KT4TZ, KA1SUR, WB3KKO, KA3DUE, W3IDL, WA3NSI, KK4GV, KB3KIW, KA3GER, KA3MSR, WB3KXL, KD3FU, KA3OHB, KB3MY, KK3F, WB3FGV, N3EQL, N4ITE, N3AQQ, KA3T, KB3US, N4QOS, N2BMT, WA3TGA, KC4IJY, W2GJS, KA3KIQ, N3GOQ, W3SEA, W3DQI, and others.

PG County Establishes New Net Operations

Prince Georges RACES/ARES now conducts nets on Thursday nights at 9 p.m. on 147.18 MHz repeater except for the 4th Thursday of the month on which members and visitors meet in person. The meetings are held in the Office of Emergency Preparedness, Central Communications Facility, 7911 Anchor Street, Landover, Maryland. This is a new arrangement combining northern and southern Prince Georges RACES/ARES nets into one. Contact either George, KA3KIF, or George, WB3JRW, for further information (see page -- of -- (this/ the March)-- issue of Auto-Call).

-Submitted by George Dewees, KA3KIF-

Montgomery County RACES Activated

On Saturday, March 4th, a tanker truck overturned on South Glen Road in Potomac, Maryland. The truck was filled with 8,000 gallons of gasoline and landed upside down in the Watts Branch Creek.

Emergency officials who responded to the scene ordered the evacuation of the immediate area. A temporary shelter was established at the Potomac Elementary School on River Road.

Montgomery County RACES was activated at 5:30 p.m. to establish a communications link between the shelter and the Command Bus (Field Comm 1). Al Taylor, KN3U, Deputy Radio Officer, contacted RACES members using the Tone Alert System on 146.46 MHz, Montgomery County RACES' primary frequency.

Responding were Ross Merlin, WA2WDT, Jon Albers, KA3OVK, and Kevin Bonnot, KA2EYP. Ross and Jon established communications between the Field Comm One and Potomac Elementary School. By 7 p.m. the situation was under control and the evacuation requirement terminated. With the closing of the shelter at 7:30 p.m., RACES was deactivated.

Montgomery ETS Placed On Alert

Montgomery County Emergency Transportation Service (ETS, also known as the 4-Wheel Drive Program) was placed on alert late Monday afternoon, March 6th. Emergency Management notified the RACES Radio officer to prepare for an expected 6 to 8 inches of snow on top of the freezing rain and sleet that had already fallen.

In Montgomery County, RACES has responsibility in conducting ETS operations which involves the logging of transportation requests and dispatching of 4-wheel drivers and their vehicles with RACES radio operators.

At 8:15 p.m., Radio Officer Hank Black, N3ESR, called up the RACES net using the Tone Alert System on the 145.29 MHz (NIH), 145.45 MHz (MADRAS) and 146.64 MHz (MARC) repeaters and on 146.46 MHz simplex. The net was advised that transportation requests were expected for a Tuesday morning shift. Operations were scheduled to begin at 5 a.m. with the activation of the Disaster Operations Room and the net at 5:30 a.m. The first transport was anticipated for no later than 6 a.m. (Continued)

Public Service Report - Continued

Early Tuesday morning, Tom Mindte, WB3DIO, scheduled net control operator, responded to the DOR but turned back by Hank, N3ESR, as no snow occurred during the night and nothing was anticipated until late that afternoon.

Checking into Monday night's net were N3BEK, NK3, WB3LHB, KA3OVK, WA2WDT, KN3U, KA3KGL, KA3RWX, KA3JVA, K3IOG, KA2EYP, N3CLL, WB3DIO, and WB3GXW.

After the net was closed, KN3U, K3IOG, N3BEK and N3ESR conducted a telephone callup of RACES members and thirty one additional members were available to respond as needed. During the net, Prince Georges RACES contacted Montgomery RACES to coordinate 4-wheel drive activities as the need arose.

On Tuesday, N3ARD, KA3OVK, WB3DIO, WA3UQF, K3USO, WB3KHQ and W3QF checked in for the operation as it was being terminated because of improved conditions.

The Office of Emergency Management thanks all those who participated and volunteered their time to the ETS program. For more information about the program contact Rita Magee at (301) 217-2470 or Hank Black, N3ESR, at (301) 340-8585.

Montgomery RACES Prepares

On Tuesday, March 14th, RACES/ARES members heard John Birch, KA4YMA, of the SHENANDOAH MOUNTAIN RESCUE GROUP speak on the nature of Wilderness Search and Rescue and its relationships with RACES/ARES groups.

At this same meeting, members heard details of a Major Mobilization Exercise scheduled to take place on a Saturday sometime between March 18th and May 1st. The exercise is planned as an unannounced test of all county agencies and is planned to last a minimum of 8 hours. It is to involve several scenarios including a downed plane with missing persons, a hazardous materials transportation accident involving the evacuation of no less than 200 people. All the while there is unseasonable weather related problems with power and telephones. Look for results in a future column of the Public Service Report.

—PUBLIC SERVICE CALENDAR—

- 4/8/89 Cherry Blossom Festival Parade, contact Joe Peters, WB4WZZ, at (703) 241-0078.
- 4/9/89 National Multiple Sclerosis Super Cities Walk, C & O Canal/Glen Echo
Contact Ken Williams, N3AQG (202) 363-8364 or Hank Black, N3ESR, (301) 340-8595
- 4/17/89 NCARES Council Meeting; 7:15 p.m.
D.C. Red Cross Chapter House, 2021 E Street, N.W.
- 4/22/89 Dogwood Half One Hundred Hike, contact Harry Jones, N4CWP, (703) 521-4624
- 4/23/89 Dogwood Half One Hundred Hike
- 5/1/89 Wheel Chair Marathon, Contact Harry Jones for further details
- 5/15/89 NCARES Council Meeting; 7:15 p.m.
D.C. Red Cross Chapter House, 2021 E Street, N.W.

Hank, N3SR

National Capital Area Amateur Radio Emergency Service:

Va. Section EC: Earl Bishop, N4EXQ, (804)270-7564

National Capitol District EC: Harry Jones, N4CWP (703)521-4624

Military District of Washington EC: Frank Hartnett, KA8PUU (703)642-5516

Fairfax Co. EC: Joe Peters, WB4WZZ (703)241-0078

Vienna Asst. EC: VACANT

Mt. Vernon Asst. EC: Steve Schneider, WB4EEA (703)683-6570

Alexandria EC: Chuck Rexroad, N4HCP (703)971-0348

Arlington Co. EC: Craig Church, N4EFJ (703)979-8325

Prince William Co. EC: Harry Vorhauer, W4PVA (703)368-6050

Loudoun Co. EC: Bill Roemer, K3CUU (703)395-4905

Virginia District #1 DEC: Walt Quitter, NC4B (703)869-5241

Frederick Co. EC: Steve Czaikowski, WB4ZTR (703)869-3674

Warren Co. EC: Tom Strickler, K4JNA (703)635-3035

.....

Maryland-DC SEC: Al Taylor, KN3U (301)251-9464

Maryland-DC ASEC: Ross Merlin, WA2WDT (301)983-2842

Md. State RACES Officer: Al Nollmeyer, W3YVQ (301)252-9073

Md. State RACES Officer: John Rupprecht, K3NOQ

Dist. of Columbia EC: Ken Williams, N3AQQ (202) 363-8364

Allegany County EC: Gay Rembold, W3DFW (301)724-0674

Anne Arundel Co. EC: Nancy Alley, KD3KJ (301) 766-0129

Baltimore City/Co. EC: Cam Whetstone, WA3YOH (301)486-2609

Calvert Co. EC: Woody Schwartz, W3ZNW (301)535-1281

Caroline Co. EC: VACANT

Carroll Co. EC: John Culleton, KO3Z (301)795-1159

Cecil Co. EC: Bill Doss, N3AJJ (301)287-5897

Charles Co. EC: VACANT

Dorchester Co. EC: VACANT

Frederick Co. EC: Rick Ogden, N3RO (301)845-2670

Garrett Co. EC: VACANT

Harford Co. EC: VACANT

Howard Co. EC: Mike Carr, WA1QAA (301)799-0403

Kent Co. EC: Jim Bortner, WA3UJE (301)778-0589

Montgomery Co. EC: Hank Black, N3ESR (301)340-8595

N. Prince Georges Co. EC: Gary Mentro, WB3JRW (301)927-4094

S. Prince Georges Co. EC: George Dewees, KA3KIF (301)292-1241

Queen Anne Co. EC: Walter Brink, W3WPY (301)643-2933

Somerset Co. EC: VACANT

St. Mary's Co. EC: VACANT

Talbot Co. EC: VACANT

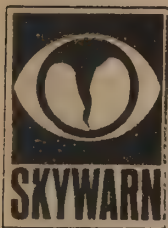
Washington Co. EC: Charlie Anderson NF3X (301)733-3061

Wicomico Co. EC: VACANT

Worcester Co. EC: Leo Kilgore KX3J (301)641-4291

SKYWARN UPDATE

Dan McClafferty, N4QOS



The approach of Spring is becoming apparent to all and, with warming temperatures, the atmospheric conditions that generate severe storms begin to develop. With this in mind, the National Weather Service (NWS) has again enlisted the support of Amateur Radio to provide assistance to the SKYWARN program in this area. Many readers are familiar with SKYWARN from our activities last year. For those new to Amateur Radio, or to the area, a brief review will be helpful.

SKYWARN is a program sponsored by the National Weather Service to increase public awareness of the hazards and threats posed by severe thunderstorms. As a major part of this program, the NWS continues to develop a warning network of volunteers who provide local weather observations during periods of severe storm activity. These volunteer "spotters" assist NWS forecasters in tracking the movement and measuring the intensity of severe storms. The information passed to the NWS enables forecasters to issue timely and accurate warnings of threats to life and property. The primary focus of SKYWARN's attention is the severe thunderstorm and possibly accompanying tornado.

While all thunderstorms are capable of producing tornadoes, the strong to violent tornado is most often associated with what is known as the *Tornadic Thunderstorm*. In addition, *Squall Line Thunderstorms* (associated with cold fronts) can also produce significant tornadoes. This area experiences both types of thunderstorms each year and, while tornadoes do not regularly develop, they do occur and the potential is always there.

Even without tornado development, severe thunderstorms are dangerous. They pose a very real threat of widespread property damage and possible loss of life due to the intensity of winds, lightning and hail that are produced. Heavy rains and possible

flash flooding in some locations also present cause for concern. Recognizing these threats, the National Weather Service makes every effort to provide advance warning to those areas that may be affected.

A key to NWS accuracy in issuing a severe storm warning is the forecaster's ability to obtain as much information as possible about the storm system. A variety of high-tech systems exist which supply continuous data to a forecast office. Radar, for example, is an extremely valuable tool. However, radar has limitations since it offers an incomplete picture of a thunderstorm. Radar can "see" what is going on at 20,000 feet, but not what is happening at ground level. Nor can it spot tornado development. While severe thunderstorms have characteristic radar patterns, it is the ground level reports of wind speed and direction, funnel cloud development, the presence of lightning, hail, and heavy rain that help to fill in the picture. Careful consideration of all available information enables the forecast meteorologist to gauge the severity of the storm, track its movement and issue appropriate warnings to the public.

It is important to note that ground level observation and report are made by a variety of sources. SKYWARN is not exclusively an Amateur Radio activity. Airport tower personnel, public service agencies, weather enthusiasts, and others, all make valuable contributions to SKYWARN. However, the National Weather Service, recognizing the unique capabilities of Amateur Radio, has been encouraging ham participation in SKYWARN spotter networks. In other parts of the country, especially in areas with frequent tornado activity, Amateur operators have been active in SKYWARN for a number of years.

One of the most important benefits provided by the forecasters by Amateur Radio operations is the speed by which a large number of reports from a relatively

Skywarn Update - Continued

wide area can be sent to a forecast office. Due to rapidly changing conditions associated with severe storm development and movement, the timeliness of reports is often critical. Amateur Radio capabilities also allow the forecaster to be selective, to obtain ground observations in those areas where radar reports indicate that immediate attention is warranted. Thirdly, Amateur Radio operates independently of power and telephone lines which are often damaged during severe thunderstorms, rendering some other types of spotter reports impossible.

As a result of encouragement by local NWS officials seeking to expand and improve SKYWARN coverage, Amateur involvement has recently begun in the Washington, D.C. forecast area. Last year, during the severe storm season (April - October), local Amateurs established SKYWARN radio nets on 2-meters, with a sizeable number of area hams providing spotter assistance. This year, Amateurs in the Baltimore, MD and Richmond, VA forecast areas, in conjunction with NWS personnel there, are planning additional SKYWARN networks.

It should be pointed out that a forecast "area" is not limited to the local metropolitan area in which a forecast office is situated. In fact, a forecast office has responsibility for a rather wide geographic area. For example, the Washington, DC forecast area includes nineteen counties in the northern third of Virginia; three counties in West Virginia; the Maryland counties of Washington, Frederick, Montgomery and Prince George's; as well as the District of Columbia. The Baltimore Forecast Office is responsible for all of the remaining counties in Maryland except Garrett and Allegany. Quite a few hams live in these regions, providing a substantial resource from which to build an extensive SKYWARN network.

Since severe thunderstorms are not a daily occurrence, SKYWARN does not make great time demands, and it does provide an opportunity to improve operating skills

in what can be considered real emergency situations. As the program expands and improves, there is an increasing need for both net control operators and spotter. More spotters are especially needed in the rural counties of Virginia and Maryland because the direction of previous storm tracks indicates that these rural counties are the first to be affected by severe storm system. Spotters in these areas not only provide a valuable service to their home counties, but also supply early warning reports for more densely populated areas.

So much for a "brief" overview. Next month's column will cover SKYWARN from an operations viewpoint. However, you don't have to wait until next month to become involved; contact your local Emergency Coordinator and let him know of your interest. (A list of ECs appears on page 18). Public service is one of the primary reasons for the existence of Amateur Radio. SKYWARN provides an excellent opportunity for your participation.

Dan, N4QOS

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Training Classes

Robert Milligan - KI4MB

6608 N. 18th Street, Arlington, VA 22205

Phone (703) 534-1319 (Home), (703) 533-0650 (Recorder)

Novice Classes, Started March 20, Southern Maryland. Sponsored by the Southern Maryland Amateur Radio Club. Classes start at 7:00 p.m. at the Church of the Nativity, Camp Springs, Md. For further information contact Vic Curtis - WA3YUV at (301) 888-1388 or Lee Mann -KF3T at (301) 372-8322.

Novice Classes, Started February 22, Frederick, MD. Scheduled by the Frederick County Board of Education at Gov. Thos. Johnson High School, Frederick, Maryland. Sessions will be from 7:00 to 8:30 p.m. every Wednesday for ten successive weeks. Instructor will be Hal Silverman - W3HWC. Students will gain a working knowledge of fundamentals of electronics and radio theory, and learn the code. Novice license tests will be available. Further information may be had through Hal Silverman - W3HWC or Steve Bauman, W3FOA.

Novice/Technician Classes, Started February 16, Woodbridge, VA. Sponsored by Woodridge Wireless, Inc. Classes every Thursday evening 7:00 - 9:00 p.m. for 13 weeks. Our Lady of Angels School, Marriage Way (across Rt 1 from Marumsco Plaza), Woodbridge, VA. For more information contact Ed Bayne - N4LJZ at (703) 494-3508 or Bob Walter, NQ4K at (703) 494-1069.

GENERAL INFORMATION

Alexandria Radio Club - Contact Harry Jones - N4CWP (703) 521-4624
Anne Arundel - Contact Tony Young - WA3YLO (301) 262-1917
Antietam Radio Assn. - Contact Ken Picone - KC3TT (301) 824-3519 after 5:00 p.m.
Baltimore ARC - Contact Ralph Huber - KA3HAM (301) 321-5748
Baltimore Radio Amateurs TV Society (BRATS) - Contact Bill Self (301) 669-0149
Chaverim, Inc. - Contact Bob Teitel - W3IDT (301) 654-3484
Frederick ARC - Contact Steve Bauman - W3FOA (301) 662-4552
Goddard ARC - Contact Chris Spinolo - KA3RTC (301) 776-5710
Laurel ARC - Contact Frank Treadwell - K3LDE (301) 498-2213
MADRAS - Contact Renee Culver - KC3NG (301) 949-9220
Montgomery County Department of Recreation (301) 468-4050
Mount Vernon ARC - Contact John Forrest - WZ4A (703) 971-3905
Pentagon ARC - Contact David Boyd - K9MX (202) 697-0630
Rock Creek ARA - Contact Walt Ramsey - AK3B (301) 949-3954
Shenandoah Valley ARC - Contact Walt Quitter - NC4B (703) 869-5241
Southern Maryland ARC - Contact Vic Curtis - WA3YUV (301) 888-1388
Sterling Park - Contact Art Nevins - WA4NTP (703) 437-9382
Tri County ARC - Contact Al Sines - WA3QGA, P.O. Box 710, College Park 20740
Vienna Wireless - Contact Paul Wilkins - AB4CY (703) 560-2779
Washington Adventists - Contact Henry Miller - W3BWN (301) 474-7376
Woodbridge Wireless - Ed Bayne - N4LJZ (703) 494-3508

Local clubs are urged to list their training programs with the Auto-Call far enough in advance for effective publicity.

FOUNDATION FOR AMATEUR RADIO
Volunteer Examiner Cooperative

Nancy Draheim - NK4U
3513 Old Post Road, Fairfax, VA 22030
(703) 691-0078

SCHEDULE OF EXAMINATIONS
1989

IMPORTANT NOTE: If you now have a Technician class license which was acquired prior to March 21, 1987, have a copy of it available when you decide to upgrade.

- Apr. 1 University of Maryland ARC (College Park) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld, NF3I (301) 963-4008
- Timonium Hamfest (Timonium, MD) (Laurel VEC) **Pre-registration only.**
Contact: Steve Silberman (301) 547-7123
- Apr. 8 Williamsburg Area ARC (Williamsburg, VA) (ARRL VEC)
Contact: Andrew Swanson, WJ4X (804) 253-2811
- Sterling Park Amateur Radio Club (Sterling Park, VA) (ARRL VEC) Walk-in
Contact: Ray Burns, WA3DYP (703) 821-7330
- Apr. 23 Antietam Radio Assn. (Hagerstown, MD) (ARRL VEC)
Pre-registration requested.
Contact: Ken Picone, KC3TT (301) 824-3519
- May 5 Pentagon ARC (Arlington, VA) (W5YI VEC) **Prearrangements Necessary**
Contact: David Boyd, K9MX (703) 659-6241
- May 6 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008
- May 6 Portsmouth ARC (Portsmouth, VA) (ARRL VEC)
Contact: Art Thiemens, AA4AT (804) 484-2857
- Shenandoah Valley ARC (Middletown, VA) (ARRL VEC)
Contact: Walt Quitter, NC4B (703) 869-5241
- May 13 Frederick ARC (Frederick, MD) (ARRL VEC) Limited Walk-ins
Contact: Rick Ogden, N3RO (301) 845-2670
- May 20 Woodbridge Wireless (Woodbridge, VA) (ARRL VEC)
Contact: Don Ross, WQ4W (703) 670-3414
- May 21 BRATS (Baltimore, MD) (Laurel VEC) Walk-in
Contact: Steve Silberman (301) 547-7123

While most examinations are offered on a walk-in basis,
pre-registration is desirable in all cases.

Volunteer Examiner Cooperative - Continued

- June 3 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008
- Virginia Beach ARC (Virginia Beach, VA) (ARRL VEC)
Contact: Tom Weikel, KA4UNC (804) 340-7697
- June 17 Ole Virginia Hams (Manassas, VA) (ARRL VEC) Walk-in
Contact: Harry Vorhauer, W4PVA (703) 368-6050
- July 8 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008
- George Washington University & Department of State (Washington, DC)
(ARRL VEC) Walk-in.
Contact: Derrill Rohlfs - W3WOX (301) 423-0179
- Massanutten ARA/Valley ARC (Harrisonburg, VA) (ARRL VEC) Walk-in
Contact: Wayne Miller, KB4WOM (703) 867-5428
- July 15 Chesapeake DX Assn (Chesapeake, VA) (W5YI VEC)
Contact: Bill Verebely, KC4YX (804) 424-4764
- Aug. 5 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008

While most examinations are offered on a walk-in basis,
pre-registration is desirable in all cases.

Certificates of successful completion for theory tests
are not always accepted. Check with the contact person
for the examination you wish to take.

If you are upgrading from Technician class license acquired prior to March 21, 1987
a copy of your license may be required as proof that you are grandfathered
for Element 3B (General theory)

NOTE: All examinations require that you submit:
Copy of your current Amateur Radio license (bring original)
Completed FCC Form 610.

Check for appropriate examination fee.*

Maximum fee has been raised to \$4.75.

Fees of individual VEC may vary.

ARRL Exam fee is \$4.75

W5YI Exam fee is \$4.55

Laurel Exams are still free.

Mountain VEC Novice Exams free

All other Mountain VEC Exams \$2.00

This schedule of examinations appears each month in Auto-Call Magazine

Sponsored by the Foundation for Amateur Radio

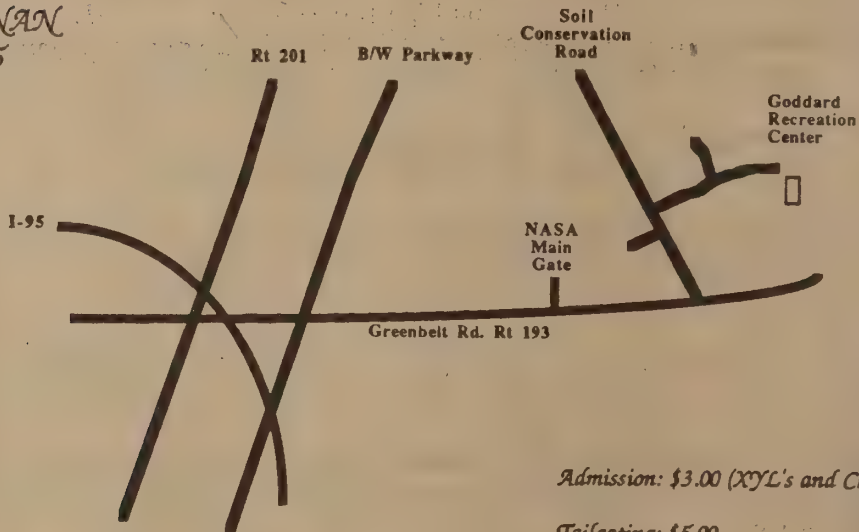
— Please advise NK4U of your examination schedules.

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The Washington Adventist Amateur Radio Association*

*Talk-in: W3NAN
146.235/146.835
146.52*



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Tailgating: \$5.00

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SRAM -- 005

Amateur Radio in the USSR

Dexter Anderson, W4KM

LICENSING IN SPACE -- U1MIR/U2MIR/U3MIR

MORE ON SOVIET-CANADIAN SKITRECK/NORDSKI EXPEDITIONS
ADDRESSES OF QSO BUREAUS IN REPUBLICS, LENINGRAD, AND MOSCOW
RADIO CLUB ANNOUNCED FOR MULTI-HAM FAMILIES
DX-PEDITION TO RARE OBLASTS IS PLANNED

LICENSING IN SPACE -- U1MIR/U2MIR/U3MIR

The lead article in the January 1989 *RADIO* magazine concerns Amateur activity aboard the "Mir" ["Peace"] space station. The cover of the issue features Musa Manarov - U2MIR, reading the February 1988 issue of *RADIO* magazine while in space. U1MIR, U2MIR, and U3MIR point out in a New Year's message that the Soviet flag on the spacecraft is attached to their VHF antenna which serves as a flagpole.

The article itself begins by describing how Vladimir Titov, Musa Manarov, and Valeriy Polyakov get involved with Amateur Radio. Once the "Mir" space-complex crew, then consisting of Titov and Manarov, had gotten accustomed to their routines, Manarov began to think back to radioelectronics, a childhood interest in which *RADIO* magazine had played an important part. The officials at the flight control center relayed his interest to the editors of *RADIO* and, at the first opportunity, fresh issues were sent to the spacecraft.

Well, as they say, appetite comes with eating. Cosmonauts do have time off. The editors of *RADIO*, together with Vladimir Titov and Musa Manarov, suggested installing a transceiver aboard the spacecraft. Flight control agreed. The editors prepared a 3/4-wave whip antenna with a device to attach it outside the spacecraft. Valeriy Agabekov - UA6HZ donated a two-watt transceiver. Soon this equipment was delivered to the spacecraft.

Meanwhile, U1MIR was assigned to Vladimir Titov; U2MIR to Musa Manarov, and U3MIR to Valeriy Polyakov, who joined them after the joint Soviet-Afghan flight. On 8 November 1988, at about 0900 MSK [0600 UT], U2MIR conducted the first test communication with UK3KP [the collective station of *Komsomol'skaya Pravda*, the newspaper of the party youth organization Komsomol]. On 12 and 13 November, a lively discussion took place between *RADIO* employees and the cosmonauts on the service channel. On these same days, the Radio Amateurs in space contacted radiostations of an AMSAT symposium in Atlanta.

This is the way, the article concludes, that the first space-to-Earth Amateur bridge began operation. Call signs from India, Canada, the USA, Australia, Zimbabwe, Argentina, Western Europe -- many countries and continents, among them, of course, call signs of Soviet Radioamateurs -- filled the logs of the "Mir" station.

MORE ON SOVIET -- CANADIAN SKITREK

January 1989 *RADIO* contained a two-part article on the Soviet--Canadian Skitrek [I still prefer Nordski! Tks WA2LQQ!]

The first, introductory, portion is by Dr. Dmitriy I. Shparo - UA3AJH, the leader of the expedition, who lists the Soviet participants in the "moving group" [as opposed to those who manned the base stations] as Vladimir Ledenev, Yuriy Khmelevskiy, Anatoliy Mel'nikov, Vasiliy Shishkarev, Aleksandr Belyayev, Anatoliy Fedyakov, Mikhail Malakhov and Dmitriy Shparo. The skitrek began 3 March 1988 at mys Arkticheskiy [Arctic Cape], Severnaya Zemlya [USSR] and lasted 91 days. (Continued)

SRAM -- 005 - Continued

For Tolya [nickname for Anatoliy] Mel'nikov, the radioman of the moving group, the 1800-km trip was especially difficult. He had frozen his toes during a similar expedition in 1986 and had suffered a partial loss of them. But no one else was available as radioman, so he decided to go. He was always the last one to get into the tent at night to warm up, after sending off radio dispatches.

The second part of the article is by Leonid Mikhaylovich Labutin - UA3CR, and focuses mainly on communication arrangements for the expedition. Labutin first met Tom Atkins - VE3CDM, president of the Canadian Amateur Radio League, over the air in a direct Moscow - Toronto radio link. Labutin describes a later face-to-face meeting, also attended by Al D'Eon - VE3AND and Tony Fegan - VE3QF, in the headquarters of the Canadian Amateur Radio organization, located in VE3CDM's house on the outskirts of Toronto:

We examined a communications diagram. The skiers' group, moving from the point of departure, Cape Arctic, to the North Pole, would maintain a daily shortwave schedule with the base group on Severnaya Zemlya (Sredniy Island) and with drifting station SP-28. From the North Pole to the finish line in the Cape Columbia area, the base group in the settlement of Resolute Bay and SP-28 would be the principal stations to be worked by the skiers.

During the entire time there had to be dependable communication between the base groups and the radio stations of the expedition staffs in Moscow and Ottawa. This was necessary for the safety, for coordinating parachute drops, and for conveying information to the press. If needed, the intermediate base on Dikson would become involved, from which the telephone line of the Ministry of Communication of the USSR could be used.

We also discussed the following communication matters: Communication with aircraft, satellite and packet communication, use of the KOSPAS -- SARSAT distress and rescue system. The discussion about coordination of radio operators was extremely important. This problem could be solved if both Canadian and Soviet radiomen could operate in the moving group and at the base locations. Since the expedition had no other means of communication but Amateur Radio, it was necessary to work out the transmission of official radiograms.

The Canadians characterize as historic the "Protocol on the Use of Amateur Radio Communication During the Joint Soviet-Canadian Ski Crossing and During the Preparatory Period," signed by representatives of the Ministry of Communication of the USSR, the chairman of the Federation of Radio Sport of the USSR, T. Atkins, and D. Shparo. The protocol was historic because no such document had ever existed in the history of the Soviet Radio Amateur movement. Now, according to the protocol, Canadian radiomen could operate from the territory of the USSR and Soviet radiomen from the territory of Canada. In addition, radiograms from a "third person" [third-party traffic] could be transmitted via the expedition's radio network -- which is usually prohibited because this is a commercial communication function.

The moving group carried two KOSPAS radiobuoys, the first for use in case of distress and the second for navigational use. The second buoy, weighing 1.2 kg, sends radio signals for two hours each day. A KOSPAS--SARSAT satellite stores these signals in memory and later dumps them to Earth. The coordinates of the radiobuoy are determined at information centers. The KOSPAS center of the Ministry of the Merchant Fleet of the USSR transmits the coordinates by telephone to the radio station of the expedition staff. The information is then sent by short wave to the base stations of the expedition and finally, also by short wave, to the moving group.

Everyone knows that shortwave can let one down, so this same information was also sent via the educational-experimental Amateur satellite UoSAT. (Continued)

SRAM -- 005 - Continued

Coordinate information from the expedition staff (or from the SARSAT center in Canada) was sent simultaneously to the base stations and to the University of Surrey near London, where the satellite command center was located. At the command center, commands to the satellite were given, transformed by the "digitalker" system into human speech, and sent in the ultrashortwave [VHF/UHF/SHF] band to Earth for reception by the moving group using an ordinary FM receiver. Since the satellite "dictionary" is limited to 500 words, the UoSAT command center had to work hard to devise a report format.

Packet communication was used for the first time in our country in the expedition's radio network. *RADIO* readers are aware that Amateurs abroad already make wide use of this new communication mode. Continental shortwave and ultrashortwave networks have been created and are developing rapidly, operating at the second and third exchange levels. Amateur satellites are being planned and launched, tying these networks together into a global system.

It was with great difficulty that we received permission for packet communication from our official organizations. Foreseeing bureaucratic obstacles, we began to prepare the necessary equipment and began getting acquainted with the equipment in advance. We received assistance from colleagues from Hungary, the USA, and Canada. As a result, we were successful in providing six stations with packet equipment:

- EXØKP - Sredniy Island, operators UA3CR, RA3AU, and VO1SA/UAØ
- 4KØDC - SP-28, operators UA3AOC and VE3CDX;
- EXØPM - Dikson Island, operators RW3DR and UA3-170569
[UA3-170-569 assumed correct];
- EX3HR - Moscow, expedition staff station, operator UA3HR;
- RA3APR - Moscow, reserve [back-up?] station;
- UA9NS - Omsk, repeater [relay?] station.

Commercially-made MFJ-1274 and PK-232 units were used as packet communication controllers. "*Radio-86PK*" and "*Robotron*" (on Sredniy) computers were used.

Packet communication was used up to the very end of the expedition and revealed all of its marvelous characteristics --- 100% documentation, ability to prepare information in advance, high-speed exchange, and so on. Any packet station can serve as a repeater, which is extremely convenient. And no distortions. The central-newspaper correspondents who came to our snowed-in station were amazed by our electronic mailboxes.

I would like to mention here an invitation of the University of Surrey. Michael Meerman, GØ/PA3BGF --- with the approval of his "boss," Dr. Martin Sweeting - G3YJO --- organized a special "mailbox" ["meylboks"] for the expedition. Only network stations could "deposit" letters. All interaction with the electronic "boxes" took place automatically, practically without operator intervention.

We calculated that during the expedition the base stations transmitted over 500 kilobytes of information.

[to be continued next month]

FAMILY RADIO

An item in UW3AX's numbered column, "On the Amateur Bands" --- NLD 1356 of 8 January 1989 --- asks anyone interested in forming a "Family Shortwave Club," for members of families containing more than one Radio Amateur, to write to P.O. Box 85, 272300 BELGOROD-DNESTROVSKIY (Odesskaya Oblast'). The request comes from the Bratinov family in the Ukraine --- UB5FCB, UB5FFU, UB5FBA and UB5FCA.

(Continued)

SRAM -- 005 - Continued

RARE OBLAST'-- LEVEL ENTITIES IDENTIFIED FOR POSSIBLE DX-PEDITIONS

NLD-1359 of 18 January 1989 contained an announcement from A. Kucherenko - UT5HP, of the [newly-formed] U - DX Club that, based on replies to a questionnaire, the following oblasts were considered candidates for DXpeditions and that groups were being formed for conducting same:

- UAØX [No. 129, Koryakskiy Autonomous Okrug (District)];
- UA8T [No. 174, Ust'-Ordynskiy Buryatskiy Autonomous Okrug];
- UA8V [No. 175, Aginskiy Buryatskiy Autonomous Okrug];
- UJ8R [No. 042, Gorno-Badakhshanskaya Autonomous Oblast'];
- UL7K [No. 192, Khatlonskaya Oblast'
(formed effective 8 September 1988)];
- UD6N [No. 002, Nakhichevanskaya ASSR];
- UH8W [No. 045, Tashauzskaya Oblast'];
- UH8Y [No. 046, Chardzhouskaya Oblast'];
- UF6O [No. 015, Yugo-Osetinskaya Autonomous Oblast'].

CORRECTIONS — QSL TIDBITS

Users of "QSL Tidbits" (*are there any?!*) should make two corrections in the addresses appearing on page 28 of the March 1989 Auto-Call (SRAM --004):

The first line of the second item should read:

"YL2ZG --- possible QSL address:

The first line of the fifth item should read:

"UJ5R/UZ9MWJ or RJ1R, January - February 1989."

QSO BUREAUS FOR NON-RUSSIAN REPUBLICS, LENINGRAD, and MOSCOW

A column entitled "CQ-U" --- "calling all USSR Radio Amateurs" --- appears every month in *RADIO* magazine. The titles of the column itself, and of the main sections of which it is composed --- principally "INFO*INFO*INFO" and "VHF*UHF*SHF" --- appears in Latin letters. The "INFO*INFO*INFO" section in the January 1989 "CQ-U" column gives the address of QSL bureaus for 14 of the 15 union republics, and for Leningrad and Moscow.

No QSL bureau is listed for the Russian Republic, the RSFSR, which occupies over there-quarters of the territory of the USSR and contains over half of its population. Perhaps the RSFSR is simply too big to have a single QSL bureau. If so, we may later see a listing of QSL bureaus for subdivisions of the RSFSR, in addition to the cities of Leningrad and Moscow included here.

Note that in Soviet practice postal addresses are given in "top-down" order --- not an illogical arrangement! Following each address, in brackets, is an anglicized version provided by the translator. An envelope intended for the Armenian bureau might, for example, be address, in English:

QSL Bureau
87 Prospekt Ordzhonikidze
375007 YEREVAN

Given below is the listing of QSL bureau addresses appearing in the January 1989 issue of *RADIO* magazine.

SRAM -- 005 - Continued

QSL Bureau addresses:

- Armenian SSR: 375007, Yerevan, pr. Ordzhonikidze, 87
[87 Prospekt Ordzhonikidze, 375007 YEREVAN];
- Azerbaijanskaya SSR: 370000, Baku, abonementnyy yashchik 165
[Post Office Box 165, 370000 BAKU];
- Byelorussian SSR: 220035, Minsk, GSP, ul. Kazimtsa, 48
[48 Kazimts St., 220035 MINSK GSP];
- Georgian SSR: 380044, Tbilisi, ul. Bochorma, 12
[12 Bochorm St., 380044 TBILISI];
- Kazakhskaya SSR: 380033, Alma-Ata, ul. Rozybakiyeva, 105-a
[105-a Rozybakiyev St., 380033 ALMA-ATA];
- Kirgizskaya SSR: 720052, Frunze, Botanicheskiy per. 1
[1 Botanicheskiy Pereulok, 720052 FRUNZE];
- Moldavian SSR: 277014, Kishinev, ul. Bernardatstsi, 59
[59 Bernardatstsi St., 277014 KISHINEV];
- Tadzhikskaya SSR: 734016 Dushanbe, ul. Sportivnaya, 10
[10 Sport St., 734016 DUSHANBE];
- Turkemsnkaya SSR: 744020, Ashkhabad, abonementnyy yashchik 555
[Post Office Box 555, 744020 ASHKHABAD];
- Ukrainian SSR: 252056, Kiyev, ul. Industrial'naya, 27
[27 Industrial St., 252056 KIEV];
- Uzbekskaya SSR: 700017, Tashkent, pr. Khurshida, 86-a
[86-a Khurshid Prospekt, 700017 TASHKENT];
- Estonia: 200125, Tallin, abonementnyy yashchik 125
[Post Office Box 125, 200125 TALLINN];
- Latvia: 226098, Riga-tsent, abonementnyy yashchik 164
[Post Office Box 164, 226098 RIGA-CENTER];
- Lithuania: 232009, Vil'nyus, ul. Basanavichaus, 15
[15 Basanavichaus St., 232009 VILNIUS];
- * * * * *
- Moscow: 117311, Moskva, pr. Vernadskogo, 9/10
[9/10 Prospekt Vernadskogo, 117311 MOSCOW];
- Leningrad: 199034, Leningrad, nab. Leytenanta Schmidta, 37
[37 Lieutenant Shmidt Embarkment, 199034 LENINGRAD].

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"UJ5R/UZ9MWJ or RJ1R, January - February 1989:"

Comments on this column would be appreciated

Contact the author at (202) 485-7597 (Days)

150 11th Street S.E.

Washington DC 20003 - 3911

or write

Auto-Call at P.O. Box 7612

Falls Church, VA 22046-1452

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Adam Lessey - KA3UEO on getting his Novice ticket. Adam is 10 years old and a fifth grader in Columbia, Maryland.

Joel Rochow - N3FSH and **Harry Gartsman - W6ATC** for a transaction which netted the Foundation a \$50 donation. Joel bought a vintage Hallicrafters SR-28 from Harry but Harry returned the check saying, "donate it to your favorite Amateur Radio organization." Joel gave it to the Foundation's general fund. Thanks, Fellows!

Silent Keys

Earl Freemont Cook - W4FZ, died of cardiac arrest on February 19 at his home in Arlington, Virginia. He was 81. Major General Cook was the Army's chief signal officer until his retirement 1963. He had been an Amateur Radio operator since 1926 and an active member of the Quarter Century Wireless Association prior to his illness.

A graduate from the U.S. Military Academy in 1931, Cook served in signal intelligence in the United States and Europe during WW-II, and after the war was chief of the Army Security Agency in Europe. Later assignments included Signal Corps duty in the Marshall Islands and at White Sands Proving Grounds, NM. Moving to Washington, DC in 1958, he became chief of the research and development division of the office of the chief signal officer, then deputy chief signal officer for advanced research. He was the chief signal officer from July 1962 to July 1963, when he retired.

Following his retirement Gen. Cook joined the Washington staff of the Radio Engineering Laboratory of Long Island City. He retired again in 1970. He is survived by his wife, Jessie Dent Cook of Arlington and two daughters.

George S. Turner - W1AE, former chief of FCC Field Engineering Bureau, became a Silent Key on February 7. Turner became an Assistant Radio Inspector with the Department of Commerce in 1924 and retired in 1963 as Chief of the Field Engineering Bureau of the FCC. He was an engineer and attorney and served on the U.S. Delegation to CCIR in Stockholm in 1949 and Geneva in 1951. He saw service in the U.S. Navy as a radio instructor in 1918 and again as an Ensign in 1927-1929. He was well known and well loved in the local Amateur community.

(Submitted by Frank Kratokvil, K4RE)

Bill Eitel - W6UF/WA7LRU became a Silent Key February 26. Bill's name, and that of his EIMAC tubes, has been synonymous with radio since 1934. EIMAC was the trade name used by Eitel and his partner Mac McCollough, W6CHE. Built for higher frequencies and higher power, their tubes were quickly put into use by the military and commercial transmitters and led to important advances in radio communications. EIMAC tubes became a symbol of excellence. Radio has lost one of its great pioneers.

(Information from Frank Gunther, W2ALS via Bill Miller - K4MM)

William H. (Billy) Martin - W8MHO, became a Silent Key on January 22 at the age of 76. He studied electrical engineering at Cornell University in the early 1930s and spent most of his working life in electronics, making significant contributions to many receiver and transmitter designs. But his first love was botany; and he did much research on corn, buckwheat, and wild arborvitae. At the time of his death he was experimenting with the transmission and reception of signals at 3 kHz. He survived by his wife, Lucille, and five children.

(Submitted by Charles Preston, K4LJH)



AMATEUR RADIO NEWS RELEASE

For Immediate Release

THE FOUNDATION FOR AMATEUR RADIO, INC., a non-profit organization with headquarters in Washington, D.C., plans to award thirty-two (32) scholarships for the academic year 1989-1990 to assist licensed Radio Amateurs. The Foundation, composed of fifty local area Amateur Radio Clubs, fully funds four of these scholarships with the income from grants and its annual Hamfest. It administers, without cost to the donors, seven (7) scholarships for the Quarter Century Wireless Association, five (5) for the Baltimore, (MD) Amateur Radio Club, three (3) for the Radio Club of America, and two (2) each for the Dade (FL) Radio Club, the Amateur Radio News Service, the 10-10 International Net, and the West Allis Radio Amateur Club of Milwaukee. It also administers one (1) each for the Richard G. Chichester Memorial, the Young Ladies' Radio League, the Columbia (MD) Amateur Radio Association, the Frederick (MD) Amateur Radio Club and the Vienna (VA) Wireless Society.

Licensed Radio Amateurs may compete for these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled in or have been accepted for enrollment at an accredited university, college or technical school. Some of the scholarships require the holding of at least an FCC GENERAL Class license or equivalent. The awards range from \$500 to \$2000 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs.

Additional information and an application form can be requested by letter or QSL card, postmarked prior to May 31, 1989 from:

FAR Scholarships
6903 Rhode Island Avenue
College Park, MD 20740

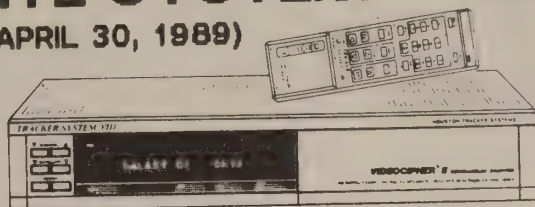
The Foundation for Amateur Radio, incorporated in the District of Columbia, is an exempt organization under Section 501(c)(3) of the Internal Revenue Code of 1954. It is devoted exclusively to promoting the interests of Amateur Radio and those scientific, literary and educational pursuits that advance the purpose of the Amateur Radio Service.

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DISH UPGRADES

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(MOTOR FREIGHT)

Winegard SK-165 10' Deep Dish \$120.00
(UPS SHIPPABLE)

Parabolos East PE10MM \$220.00
Includes PE1000 Horizon to Horizon Mount and Drive

(MOTOR FREIGHT)
Parclipse 10' Plus Polar T \$305.00
Includes Tuned Feed and Cover

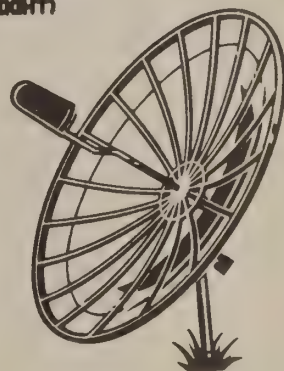
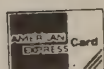
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Rochester, New York
May 19, 20, 21, 1989

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Nominate that special Amateur in your area for the Atlantic Division
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the Amateur fraternity, the award is announced at the Hamfest/Convention
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Do this for someone who does so much for Amateur Radio.

Nominations deadline is April 22, 1989.

For nomination forms, send a request to:

Richard A. Goslee K2VCZ
Chairman, Rochester Hamfest Award Committee
24 Elaine Drive
Rochester, New York 14623-5306

1989 Selection Committee: Richard Goslee K2VCZ; Hugh Turnbull W3ABC, Director,
Atlantic Division ARRL; William Thompson W2MTA, ARRL Section Manager,
Western New York; Edwin Holdsworth N2EH, 1987 Amateur of the Year;
Kay Craigie KC3LM, 1988 Amateur of the Year



Have Bug -- Will Travel

PART III

Howard Johnson - W4IIG

Howard Johnson, W4IIG Last month we (you & I) took a quick look around the USNS SEALIFT MEDITERRANEAN/NMHT, and reflected upon the general nature of ship-shore communications in the year 1988. Whilst we were thus occupied, approximately 200,000 barrels of jet fuel and other refined petroleum product was being loaded aboard from the Mobil Oil Company's refinery on the island of Singapore. From my personal daily log, I see that Pre-Departure Tests were performed at 1800 ship's time on 26 February. This involves testing the main & emergency transmitters, receivers, radio-telegraph & radiotelephone auto-alarm systems, emergency battery bank, antennae, both radars (10CM & 3CM), VHF comm gear and numerous other items. Primary communications guard was set, utilizing the commercial INMARSAT, system and the Indian Ocean satellite. Secondary guard set, SITOR/CW with Singapore Radio/9VG and a speaker watch set on 500kHz. We were underway on 27 February at 0016 Local Time (26 February 1612 GMT), ship keeping ZD+8 time. The general track of this voyage will be in a NE'ly direction, from the southern tip of the Malay Peninsula to the approaches to Tokyo Bay and Yokosuka - our initial destination.

Noon, 27 February: 03:05.5N 105:21.5E C026 11.8h 157.2NM 2778NM to go Wind NE Force 4, so reads my log entry for that date. Freely translated, we were an infinitesimal speck on the surface of the South China Sea in Latitude 3 Degrees 5.5 Minutes North, Longitude 105 Degrees 21.5 Minutes East. We had been underway 11.8 hours (timed from DEPARTURE at 0016, just after midnight), had Made Good 157.2 Nautical Miles, with 2778 Nautical Miles remaining to be travelled. The wind was from the Northeast, or 045 Degrees, and its intensity measured "Force 4" on the Beaufort Scale. Your "problem for the day": What was the intensity of the "Apparent Wind" blowing across the deck,

taking into account our speed of approximately 13.3 knots? Kep Anambas Islands were now behind us, bearing approximately 135 degrees relative to our bow, and the larger group known as Kep Natuna Besar was just forward of the Starboard Beam. Those owning or having access to a World Globe will have no difficulty in plotting our trek, which will take us through a point approximately midway between Saigon/Ho Chi Min City and the Spratly Islands of "DX-Pedition" fame.

The next four days we were on a track of 040 degrees True, weather holding near-perfect, Ceiling & Visibility Unlimited (CAVU to you aero folks!), wind rising to Force 5 on the 28th, then, steadily declining to Force 2 on the 1st of March, increasing to a very brisk Force 6 on the 2nd, with intermittent rain showers, blustery and distinctly cooler. Taiwan appeared broad off the Port bow at 1220L on the 2nd, approximately 20 miles off and indistinct in haze/rain. Daily radio traffic consisting (generally) of routine position reports, fuel consumed, ETA, etc. Weather observations several times per day, via satellite direct to Washington DC, incoming forecasts via Guam on HF SITOR, WXFAX from Tokyo on HF. Routine watchkeeping on 500kHz, observing the silent periods from 15 to 18 and 45 to 48 minutes past each hour. Daily tests of comm gear were done during the afternoon watch, as a general rule

The 3rd and 4th of March found us at reduced speed, down to less than 11 knots in rough sea conditions, wind piping up to Force 8 - continuing out of the Northeast. On this vessel, speed reduction is via a unique process. At what ever sea speed the vessel makes, the propeller shaft turns at a constant 90RPM. To increase/decrease speed the propeller pitch is changed, and reverse pitch is used to go astern. Similar to the system used in turboprop

Have Bug -- Will Travel - Continued

We "Took Arrival" at the Yokosuka, Japan Pilot Station at 1300L (ZD+9) time on the 6th, were all fast alongside the USN fuel dock by 1500L, and I hit the beach for several hours on the 7th. Shopping at the base exchange, a haircut, lunch at the Officers Club, a visit to the bookstore, postoffice and a nice long chat with my wife Bessie was a thoroughly enjoyable break in the routine of shipboard life. Oh, I must admit to a certain amount of carousing - to the extent of enjoying a bottle of fine Asahi beer with my lunch! This was doubly pleasurable, since the ship was "dry" by direction.

The next port of call was Sasebo, away down at the southwestern end of the Japanese home-islands chain, and the voyage was a real pleasure with clear sky and light breeze most of the way. Alongside the fuel dock at the U.S. Naval Base, our line-of-sight path to the Indian Ocean Satellite was obscured by a hill, so it became necessary to "change birds" which is accomplished by making some simple calculations followed by entering Azimuth and Elevation data into the Satcom system and letting the microprocessor do the work.... we were locked on to the Pacific Satellite, located above the equator at 180 degrees Longitude, within a few seconds.

After discharging all remaining cargo, we departed Sasebo on the morning of 11 March, bound for Manchester in Washington State near Seattle. There was "joy in mudville today" as many of the crew were from the West Coast, and they had seen enough of southeast asian waters for awhile! My, what a lot of smiles and enthusiasm on the part of all hands, and even talk of flying a Homeward Bound Pennant (though no such item was in our flag-bag).

However, such was not to be, as our hopes were dashed by a late-night communication from the head office. Breakfast next morning was in sharp contrast to the previous evening's meal, and "Sparks" was picked as the culprit. Much good natured kidding and predictions of dire consequences if I did not do better in the future!! The captain allowed as how Sparks should be keelhauled, while the chief mate was all for banishing me to the forepeak for the duration...

Our new destination was Singapore, where we loaded full cargo at the Shell Oil Company terminal on Pulau Bukom (Bukom Island) prior to sailing for Subic Bay, Republic of the Philippines. In the next few weeks, we returned to Singapore, then made two round trips to Okinawa before entering the Keppel Shipyard, Singapore for routine overhaul and maintenance. Our most interesting voyage lay ahead of us, to the Persian Gulf under wartime conditions... tune in next month for details!



*Gil Frey, KJST
EC of Charles City County, Virginia*

Quick On Ten

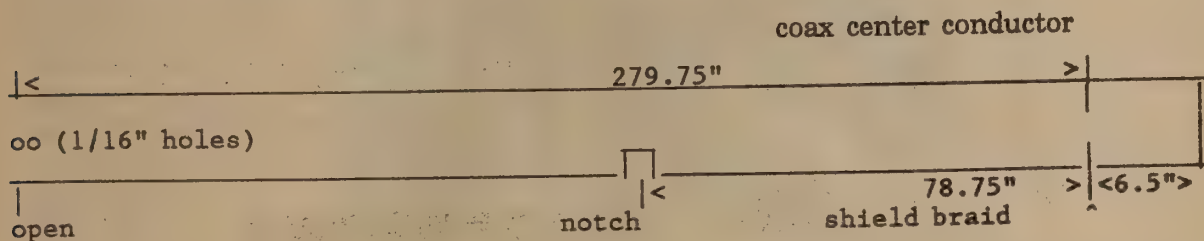
Gil Frey, K4JST
EC, Charles City County, VA

I just finished using Ten Meters for a demonstration of Amateur Radio to a group of Boy Scouts. Nice band with plenty of activity and long impressive skip when it is open. Just the thing for a short demo. My first problem was rigging an antenna. A dipole is certainly easy enough to cut and put together, but it does require two lines for support. A vertical is easier to erect and is not as effected by height above ground if it uses a ground plane. The quarter wave ground plane would work, but the radials spread to cover a fair amount of area. What I really needed was a J Pole.

I use a wire J Pole on Two Meters for emergency and backpacking situations, why not scale it up in size for Ten Meters? First problem was to select one of several dimensions that are floating around for the Two Meter antenna. I had just received a copy of *Handi-Ham World* that had a construction article for a Two Meter J Pole described by KC7NS. I figured if I started with his dimensions and then pruned the Ten Meter version, using an RF noise bridge, I might save some time. The construction follows:

- (1) Cut a piece of 300 ohm TV twin lead to 280.5 inches. Strip 3/4" of insulation off one end and drill two 1/16" inch holes near the opposite end to hold line for hanging the antenna. Cut a quarter inch wide notch through just one of the wires of the twin lead at a point 78.75" from the end with exposed wire.
- (2) Cut a second piece of twin lead 8" long. Strip 3/4" of insulation off each end. Twist together wires at one end and solder.
- (3) Twist together the exposed wires from the short and long pieces of twin lead as if to make a splice.
- (4) Connect the center conductor from a piece of RG58 coax to the wires on the long side of the twin lead and connect the outer braid (shield) to the side having the notch. Solder. Tape this junction to protect the wire and to reinforce this joint.
- (5) Attach a string through the 1/16" holes and toss over a tree branch.

On the air you go.



How does it work? Well, the first contact was an F6 in France, the next in West Germany and then a mobile near Amarillo, TX. I used a transmatch, but when I connected it direct to my old Omni, the SWR was 1.4:1 and the rig fed it with no problem. I decided not to waste time tuning it and have been using it with no transmatch. The project took an hour to round up the material and do the cutting. Cost is about \$2.50, not including the coax. Guess I will cut one for 12 meters next.

With the introduction of rigs like the new Tandy 10 meter SSB rig and the tremendous increase in activity and potential operators available for emergency communications that result from the Novice Enhancement, it is time to take another look at Ten Meters for local emergency communications. If this is going to work, then there will also be a need for inexpensive portable antennas. This project may fill some of that need.

Gil, K4JST

The Crew at 22

Little Rock Teams up with the Big Apple

The "Crew from 22" is quite excited about their new Arkansas connection. Governor Bill Clinton of Arkansas has commended The Radio Club of Junior High School 22, NYC on the use of ham radio in teaching students and he sent the club a full sized state flag which flew over the Arkansas capitol at Little Rock.

It all started with Bill McClintock - K5SGG. Bill started checking into the Crew's 15 meter net at the beginning of the Fall '88 term and he introduced the students to the great state of Arkansas via countless QSO's. As the term progressed, more and more Arkansas hams joined in, each bringing his own view of life in a state many of the New York City kids never heard of before.

As Arkansas check-ins continued to grow, K5SGG decided the governor should know just what a tremendous educational service his fellow resident Hams were providing to the children living on the lower east side of Manhattan. The governor was impressed. He sent the Arkansas flag and letter of commendation to Junior High School 22 - and a copy to the Arkansas State Representative. Perhaps the children of Arkansas will be the next to reap the benefits of EDUCATION THROUGH COMMUNICATION.

The Radio Club of Junior High School 22 is a unique non-profit organization that uses the theme of Amateur Radio to motivate young people in the pursuit of education. You will find The Crew on the air at WB2JKJ every school day mornings and afternoons on 21.395 MHz and on 7.238 at 1200 UTC. Give them a call and a word of encouragement.



Some of "The Crew of 22" with Arkansas flag flying in the classroom.

Send an Auto-Call subscription to your friends as a gift. For \$6.00 we will enter the subscription and mail a nice 5x8 certificate as you instruct.

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One year subscription to Auto-Call	
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We will also be glad to send a sample copy to prospective subscribers and/or advertisers. Send us the names and addresses. Help us promote Auto-Call.

QCWA Annual Banquet

Sponsored by Washington, DC & Vic. Clark Chapters QCWA

For All Area Amateurs

8 APRIL, 1989

OFFICERS' CLUB

Naval Medical Center

8901 Wisconsin Avenue, Bethesda, Maryland

Speaker

Leland Smith, W5KL

National President QCWA

Brigadier General USMC Ret.

Make your reservations early

Table assignments are made in the order in which reservations are received
So early applications take the best seats

Club or group reservations will be available for tables of ten.
Select a spokesman for your group and let him order the reservations.

Deadline for advanced reservations is April 1

ADVANCED RESERVATIONS

\$20 - per person. Tickets at the door (without reservations) - **\$22**

This includes dinner, gratuity, tax and parking.

PICK UP YOUR TICKETS AT THE DOOR THE NIGHT OF THE DINNER

Tickets will be mailed only upon request and receipt of SASE

No refunds on "No Shows"

Individual orders and group spokesman make remittance payable to:

Vic Clark Chapter QCWA

CASH BAR OPENS AT 7:00 p.m.

DINNER IS AT 8:00 p.m.

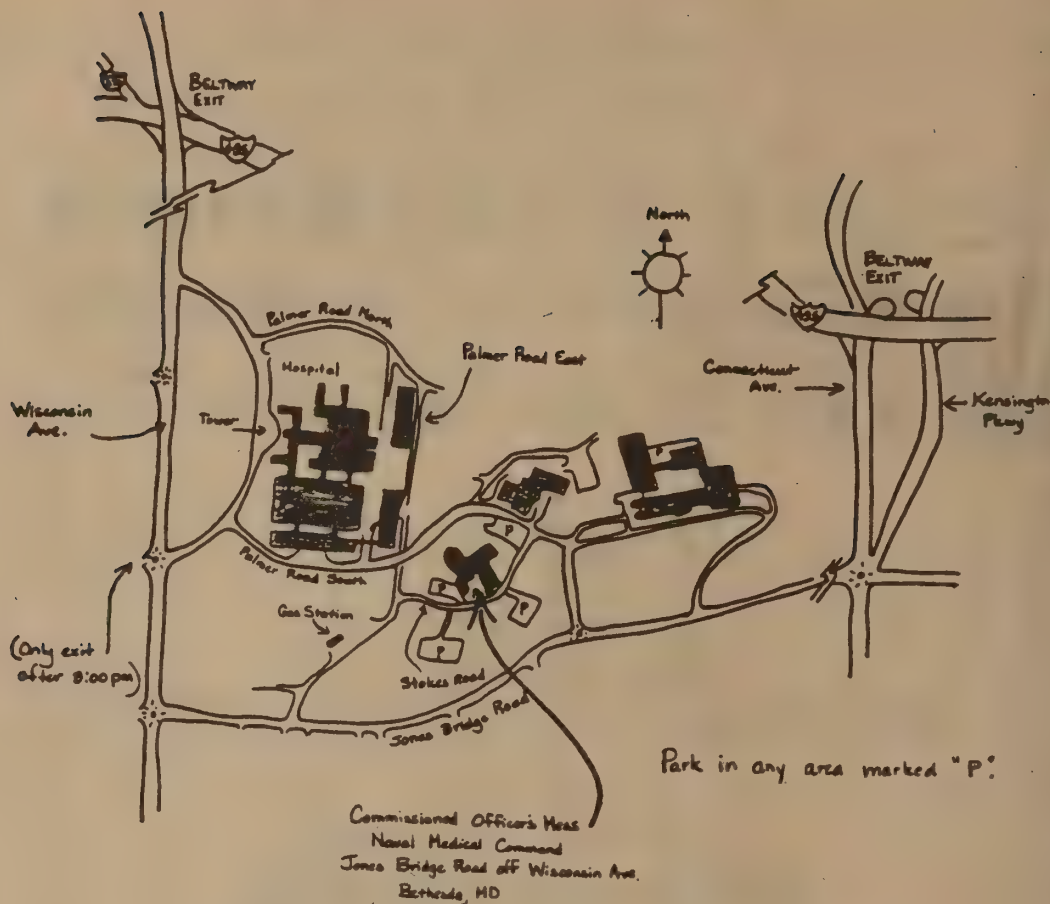
For further information and reservations contact:

Jack Kelleher, W4ZC

612 Ednor Road

Silver Spring, MD 20904

Phone (301) 924-1605



FROM VIRGINIA:

- Take 485 EAST towards Baltimore.
- Take BETHESDA, WASHINGTON Exit.
- That will be WISCONSIN AVENUE.
- Go thru 2 traffic lights.
- Make your NEXT LEFT onto the base.
- Make NEXT LEFT onto PALMER ROAD NORTH.
- Make Right at the 1st STOP SIGN (PALMER ROAD EAST).
- Make Left at the 2nd STOP SIGN (STOKES ROAD).

CLUB WILL BE ON YOUR LEFT-HAND SIDE.

FROM BALTIMORE:

- Take 85 to 485 (Silver Spring).
- Take CONNECTICUT AVENUE Exit.
- (The sign will read KENSINGTON - CHEVY CHASE).
- At the light, make a LEFT onto CONNECTICUT AVENUE towards CHEVY CHASE.
- Make your FIRST RIGHT at the light onto JONES BRIDGE ROAD.
- Turn RIGHT at first light on JONES BRIDGE ROAD.
- Make a LEFT at STOP SIGN.
- At the next STOP SIGN, make a LEFT (STOKES ROAD).

CLUB WILL BE ON YOUR RIGHT-HAND SIDE.

1989 QCWA Annual Banquet

April 8

Enclosed is \$_____ for _____ reservations at \$20 each.

Name _____ Call _____

Guest's Name(s)/Call(s) _____

Address _____

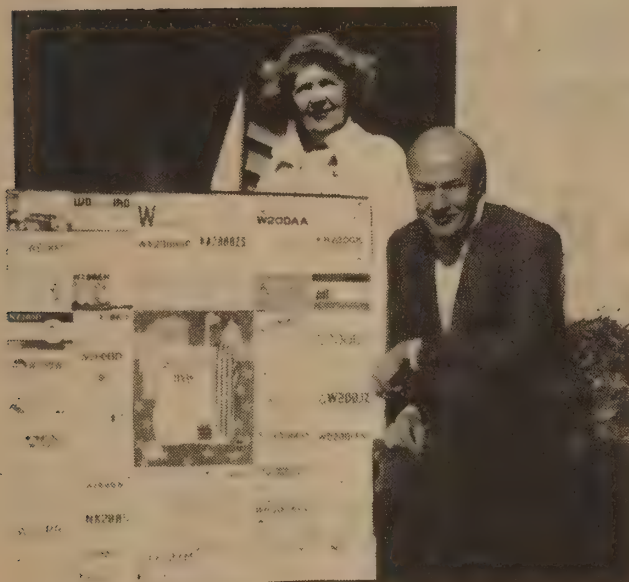
City _____ State _____ Zip _____

Mail to: Jack Kelleher, W4ZC; 612 Ednor Road; Silver Spring, MD 20904

Group seating for _____ people. Names as follows:
(Minimum of ten)

We The People Bicentennial QSLs

K6IR Worked all 50 States and the District of Columbia



QSL cards showing the special Bicentennial "200" prefix in their call are proudly displayed by Ken Miller - K6IR and wife, Sally. Ken worked Bicentennial stations - and got QSLs from them - from all 50 states and the District of Columbia.

To achieve the award, he had to participate every week for the full year of 1988. Each of the 50 states and DC operated for a different one week period during the year.

Ken says his wife, Sally, rightfully belongs in the picture. She had a stake in his accomplishment for ..."putting up with me chasing bicentennial stations for a full year. I know I am a lucky guy!"

K6IR and wife, Sally, Display Bicentennial QSLs

The Bicentennial "200" QSLs, showing their call and state, are listed below.

Row 1:	K6IR	MD (home call),	WD200IAD	MS,	W200MLY	IA,
	W200AP	AL,	W200AA	IL,	K200QHD	TX.
Row 2:	WB200I	IN,	N200EHD	DE,	WA200HUP	PA, KA200BZS
	K200EHI	UT,	KB200GID	GA.		
Row 3:	WL200K	AK,	W200AR	CT,	NM200S	NM, W200JXU
	AE200E	KS,	KQ200N	MA.		
Row 4:	NZ200D	AZ,	K200JF	OR,	K200KKV	NE, W200BI
Row 5:	W200WJ	FL,	W200BD	VT,	W200KVI	ME, N200EHA
Row 6:	W200SKE	MD,	WN200K	LA,	WB200SVA	MN, W200JZ
Row 7:	K200DDD	RI,	KC200LB	SC,	KD200QA	KY, WD200FFM
Row 8:	W200NH	NH,	NI200D	AR,	W200AH	WV, N200MM
	K200NDX	ID,	NQ200Q	WY.		
Row 9:	W200RR	NY,	WX200S	CO,	W200LF	MO, KH200JHM
	WB200NFY	CA,	NW200O	NV.		
Row 10:	K200ND	ND,	WA200NSY	SD,	KA200M	MT, K200LED
	K200EJK	OK,	W200DW	NC.		WA,

Good Parking

Parking the head of your computer hard disk drive is something that should be done every time you turn off your computer. You wouldn't leave the needle sitting on the record of your record player; why take chances with your sensitive hard disk? Parking the head protects the disk from damage resulting from physical jolts and even electrical spikes which may occur during lightning storms, etc. That one little Park command can save you a lot of agony. (Thanks to John at Leesburg Pike Radio Shack, Vienna))

THE MARYLAND FM ASSOCIATION, INC.
PROUDLY PRESENTS ITS ANNUAL

MEMORIAL DAY HAMFEST

ON
SUNDAY
MAY 28, 1989

AT THE HOWARD COUNTY FAIRGROUNDS
RT. #144, WEST FRIENDSHIP, MARYLAND

TIME: 8 a.m. until 3 p.m. -- premises MUST be cleared by 5 p.m.

TALK-IN on WA3DZD/Repeater (146.16/146.76, 222.16/223.76, and 449.1/444.1)

Plenty of good food and drink will be available.

COMMERCIAL DISPLAYS

AMPLE PARKING

DONATION: \$4

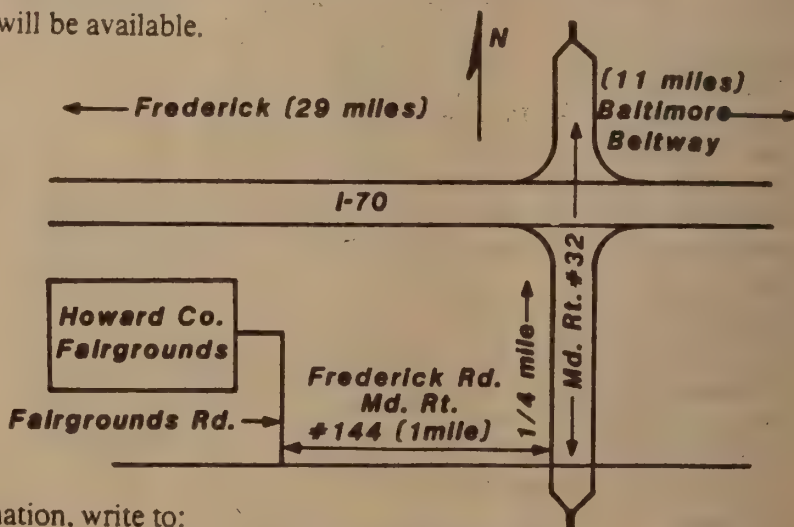
Tailgating: \$3

Table rentals (inside):

Paid in advance -- \$7

At the Hamfest -- \$10
(if available)

Only PAID table reservations
accepted. If you haven't paid,
you don't have reservations.



For reservations and information, write to:

Mike Cresap
1294 Dorothy Road
Crownsville, MD 21032
301-923-3829

Amateur License Exam
Reservations
Steve Silberman (K3RMX)
301-578-8527

All proceeds will be used for improvements to the Club's WA3DZD repeater system.

Commercial vendors must have proper tax/license certificates available.
All items offered for sale must be Amateur Radio related.

Antietam Radio Association

Meetings: 1st and 3rd Tuesdays of each month at 8:00 p.m. in CD EOC in basement of Washington County Courthouse Annex Bldg., Hagerstown.
Repeaters: W3CWC/R 146.34/.94 MHz and K3UMV/R 147.69/.09 MHz
Nets: Washington Co. 2-Meter Net, Tues. 7:00 p.m. on 146.94R, WA3V DX NCS
Four-States Net. Thursdays 7:00 p.m. on 147.09R. K3UMV NCS

Both nets are emergency training and traffic nets.

Information: Antietam Radio Assoc., P.O. Box 52, Hagerstown, MD 21740. Or call: Larry Horst, KA3SDJ (301) 432-5586 or Ken Picone, KC3TT (301) 824-3519

The following are the club's officers for 1989:

President: Larry Horst, KA3SDJ
Vice Pres: Ken Picone, KC3TT
Treasurer: Joyce Drager, KA3IXQ
Secretary: Charles Anderson, NF3X
Activities Mgr.: Barry Schmidt, N3ECM
ARES Officer: Charles Anderson, NF3X
RACES Officer: William Datum, KA3LBF

With these new officers at the helm, we look forward to an interesting and most challenging year ahead. Hams and prospective hams in our area are invited to attend our meetings and to take part in our public service activities. Amateurs, both local and out-of-country, are invited to check in to the above 2-meter nets.

Antenna and equipment up-grades to the 147.09 repeater have extended its range into counties in Pennsylvania, Virginia and West Virginia. This repeater is used as a back-up in the Maryland State Civil Defense drills held on the 2nd Tuesday of each month, starting at 7:30 p.m.

SKYWARN: In a relatively new service, hams in our area use the 147.09 repeater to exchange reports of severe weather disturbances during NWS Severe Weather Watches and to report severe storm conditions to NWS meteorologists in Harrisburg, Pennsylvania and Camp Springs, Maryland.

PUBLIC SERVICE: This year our club will again provide emergency communications support to the following events:

Hagerstown Jr. College Triathlon - This 3 times a year event starts with a 1/2 mile swim in Greenbriar S.P. Lake, then a 16 mile bicycle ride over county roads and ends with a 3 mile foot race;

Washington County Air Show in September at the Washington County Regional Airport;

HJC Ladies Cross Country Run;

Crop Walks;

The Hagerstown Alsatia Club Mummer Parade at Halloween time; and the 27th Annual running of the John F. Kennedy Marathon on the Saturday before Thanksgiving.

Runners come from all over the United States and Canada to compete in this 50-mile Marathon. The course for this foot run is over 13 miles of the Appalachian Trail, 26 miles of the C & O Canal Towpath and 11 miles of county macadam roads. The best record ever for this JFK 50-mile Hike-Run was 5:53:05 set back in 1982.

TRAINING: In February our club started a Novice Class radio operator's training class. It is held in the CD EOC meeting room at 7:00 p.m. on Thursdays. Our next VEC Exams are scheduled for April 23. Contact Ken Picone - KC3TT at (301) 824-3519 after 5:30 p.m.

PACKET: We have installed a "mountain-top" digipeater on 145.09 MHz simplex near Clear Spring, MD. This has vastly improved packet communication in and out of Washington County.

FIELD DAY: This year we will dedicate our Field Day Operations to the memory of Andy Abraham - W3JZY, who passed away December 14. His son has graciously given permission for us to again operate from his farm.

Lewis E. Danes, W3FZT

Vienna Wireless Society

25 Years of Public Service

1963-1988

Meetings: 2nd and 4th Fridays of each month, 7:30 p.m.
Vienna Community Center, 120 Cherry Street, Vienna, VA
Repeater: K4HTA/R
Nets: Every Thursday at 7:30 p.m. on 146.085 in and 146.685 out.
Alternate simplex frequency is 147.51
Pow-Wow Net Every Night at 9:00 p.m. at 28.400 MHz
Information: Brian Treadwell, WV4V (703) 938-1442 (Home), (202) 457-7179 (Office)
Training Classes: Paul Wilkins, AB4CY (703) 569-2779
g Address: P.O. Box 118, Vienna, VA 22183

WINTERFEST™ 1989

Amidst intermittent snowfall, the larger and expanded 1989 VWS Winterfest™ took place on Sunday, February 26th. Attended by over 2200 hams and electronic hobbyists, this popular Amateur Radio "flea market" was held both inside the newly expanded Vienna Community Center and outside in adjacent parking lots, known humorously as the "frostbit" area. Bargains and deals were being made at every turn while ARRL, QCWA, and other organizations promoted their interests. Thanks goes to Dave Rogers - N4JGQ, the 1989 Winterfest™ chairperson, his able lieutenants and dozens of VWS volunteers who made it all possible. See you there next year!

Town Withdraws

Proposed Restrictive Antenna Ordinance

In a late February session, the Town of Vienna Planning and Zoning Commission decided to drop the staff's proposed restrictive ham radio antenna ordinance. VWS members had attended a public hearing in January and expressed concern about the proposal. Taking into account VWS' position, little or no public support for the ordinance, and existing town and county ordinances, the commission decided to withdraw the proposal from consideration.

Expanded Scholarship

The VWS Board and membership recently voted to double its Victor C. Clark Memorial Scholarship for 1989 to \$1,000, recognizing the increased costs of higher education. This award is administered by the FAR Scholarship Committee and any interested applicants should contact the committee chairperson, Hugh Turnbull - W3ABC, for details.

220 MHz Repeater on the Air

During February, VWS brought its third repeater up. This effort was expeditiously carried both by Special Interest Group chairman, John Teller - N4NUN and Engineering and Operational Support Group chairman, Bill Moran - W4MIB. The repeater is located at 346 Ayr Hill Avenue, one of the highest spots in Vienna, and is accessible at 222.340 in/223.94 out.

Jeff Wilkes - W4NFA - Made Life Member

Jeff Wilkes - W4NFA was honored by VWS at the February 24th meeting after serving for almost a decade as VWS' public service coordinator and VAREC representative. An engraved plaque was given to him to commemorate the event. Jeff is well known by Auto-Call readers for his monthly public service column. He will be very hard to replace when he moves to VK-land this month. In addition, the VWS Board unanimously elected Jeff its latest Life Member, an honor bestowed very sparingly on club members.

(Continued on page 45)

Southern Maryland Amateur Radio Club

Meetings: 2nd Friday of each month, 7:30 p.m. .
Church of the Nativity, Manchester Drive, Camp Springs, Maryland.
(Right at first light on Route 5 South of Beltway and immediately
left into mid-block driveway).
Repeater: W3PT/R 147.15/147.75
Nets: Informal - Tuesdays, 8:00 p.m., W3PT/R
Informal - Thursdays, 8:00 p.m., 28.447
Information: P.O. Box 273, Cheltenham, MD 20623

Here it is coming into April and the club is busy with activities and preparations for the year.

At the General Membership Meeting on February 10, SMARC celebrated its 14th Anniversary. Three of the club's initial members, Jim Erickson - K3LFO, Rube Churnikoff - W3VHM, and Tom Abernethy - WA3TAI, were present. Guest speakers for the evening were Fred Lawless, Mike Martin and Tracey Levy - KA3N from PEPCO. Their topics of discussion included a brief history on PEPCO, locations of subscribers and generating plants, types of fuel used and sources of RFI problems. Fifty-four people were in attendance and cake was served in honor of the occasion.

We were excited about and looking forward to hearing our next guest speakers at the General Membership Meeting. In March, two fire fighters from the Prince George's County Fire Department discussed their experiences of assisting in Armenia after the earthquake. It was a very interesting and informative presentation. At the April meeting, Elmore Pope will give a presentation on

hot air ballooning. This is expected to be most interesting.

The "Everything You Wanted to Know" training class was held on February 17, with 15 people present. Two packet radio stations were on-line and instructional material was passed out to everyone present. A step-by-step procedure on how to operate a packet radio station was explained. Questions were asked and answered throughout the course of the evening. Interest was keen and a sense of accomplishment was projected by members of the class and the instructor. It was a very productive training session for all. Even those who knew very little about a packet radio station, like myself, learned something.

For many years, Irene - W3RXJ has been the club's FAR representative. In doing so, she has taken the minutes at FAR meetings and thus given many hours of her time and energy in keeping the club informed. For that, Irene, we extend to you our deepest gratitude and appreciation, for your service "beyond the call of duty."

Janice, N3GLB

Vienna Wireless Society - Continued

The Social Side

Vienna Wireless is not all work! The Annual Dinner will be held on March 31st at the Westwood Country Club. The event will include entertainment, awards for 1988, and door prizes. The dinner will be held in lieu of a second March membership meeting.

Brian W. Treadwell, WV4V
VWS President

Department of State ARC

Meetings: First working Monday of each month at 1200 Noon.
Main State Department Bldg, Room 3524, Washington, DC
The Foreign Service Net: Every Sunday, 1500-1530Z on 14.316
1530-1600Z on 21.416 and 1600-1630Z on 28.416
Repeater: W3DOS/R 145.19, open access. Round Table, Thursday nights at 8:30 p.m.

The Annual Banquet of the Department of State Amateur Radio Club will be held Thursday, May 4, at the Fort Myer Officers' Club. Guest Speaker will be John Johnston, W3BE, Chief, Personal Radio Branch, FCC.

A cash bar will be open at 1830 hours - Dinner will be served at 1930 hours. Menu: Baked Chicken, Caesar Salad, Broccoli, Potatoes, Rolls and Orange Sherbet. Advance reservations are required.

Tickets are \$15 each. Please make check payable to DOSARC and mail to Brad Rohrer, K1CTK, 5613 Dawes Avenue, Alexandria, VA 22311.

Deadline for reservations is April 29. Tickets will be held at the door.

For further information, contact Janie Dorset, KG3R at (202) 647-9861 or (703) 525-1488, or any Club Member on the 145.19 repeater.

DAYTON Hamvention

April 28, 29, 30, 1989

- Giant 3 day flea market • Exhibits
- License exams • Free bus service
- CW proficiency test



Fly To DAYTON HAMVENTION Special Fares

Super Saver fares plus additional 5%

Based on minimum of 10 people

Flights out of National and Baltimore

Space Available Seating

To March 1

Travel Specialist

**Roz Failoa
XYL of K3WX
(301) 984-8288**



The Dayton/Cincinnati Chapter 9 QCWA will hold its Annual Banquet in conjunction with the Dayton Hamvention on April 28 at Neil's Heritage House in Dayton, Ohio. COD Bar at 6:30; Dinner at 7:30. Tickets are \$13 each.

For tickets, contact Bob Dingle, KA4LAU, 657 Dell Ridge Dr., Dayton, Ohio 45429. Progress is underway for an interesting speaker for the evening. Come and join the fun. QCWA membership is not a requirement to attend.

Rock Creek Amateur Radio Assn.

Two Meter Net:	FM 144.65/145.25 Mondays 8:00 p.m.
RCARA Alumni Net:	7.23 MHz, Mondays 11:00 a.m.
RCARA LUNCHEON:	Wednesdays, 11:15 a.m., Anchor Inn, Wheaton, MD
Meetings:	7:30 p.m. the third Friday of each month at Vitro Labs
Mailing Address:	P.O. Box 1913, Silver Spring, MD 20902

BERNIE PETTIT - WB9BZL had nine students from his latest Novice Class pass the required exam. We all should thank Bernie for the many hours of his personal time devoted to the cause of Amateur Radio. The total number of graduates continues to grow, with many already successfully mastering the higher grades of tickets.

LIZ ZANDONINI - W3CDQ, who recently celebrated her 90th birthday, continues to share her c.w. operating time with stays in the hospital.

DANNY GINGELL - K3TKS demonstrated his version of the CW 6805 Inexpensive Keyboard at the December meeting. The basic construction article was published in the December issue of QST but Danny, who is Net Manager and a Director of the QRP Amateur Club International, intends to include a QRP transmitter in the same

housing. Naturally, a spirited, informative QRP discussion was included in the presentation.

VIC LINK - NV9P, one of the club's alumni members, now resides in Deforest, Wisconsin and he is anxious to initiate local on-the-air contacts. Walt Ramsey - AK3B will be glad to pass on Vic's schedule.

The February meeting featured a group discussion about the problems encountered as the Parklawn - Rock Creek Park Clubs' 2-meter repeater - W3RCN goes through its initiation period. The W3RCN discussion was augmented by Randy Smith - KA3GPT, presenting his video tape of the installation site.

A lively discussion was also generated concerning ARRL's apparent plans to split the Handbook into separate volumes.

Bob, KD3IO

K4NAA 50th Anniversary Special Event

April 1

Amateur Radio Station K4NAA will be operated Saturday, April 1, from 1300 through 2100 UTC, in celebration of the 50th anniversary of the establishment of the Naval Communication Unit, Washington, D.C. The station will be manned by volunteer Amateurs from Maryland/District of Columbia area of the Military Affiliate Radio System (MARS). Plans call for SSB operation on the following frequencies, plus/minus QRM:

7.230, 14.280, 21.370 and 28.350 MHz

Operation will be continuous on all these bands.

Special commemorative QSL cards will be issued to those stations who work K4NAA during the above times. No SASE is required; the station will send QSLs to addresses in the Call Book. Those not in the Call Book and desiring QSLs should QSL to K4NAA, Naval Communication Unit, Building 13, Washington, D.C. 20397-5160. Special attention will be given to Amateurs who have been stationed at Naval Communication Unit, Washington over the years. K4NAA is located onboard the base near Cheltenham, Maryland.

Metrovision

FAST SCAN - COLOR - ATV

Meetings: Quarterly: Call for next meeting time and place.
Repeater: WA9GVK/4 (Video and Audio) 438-444 MHz in; 425-431 MHz out
Also accessible on 144.970, simplex, audio.
On-the-air: Sundays at 8:00 p.m.
Mailing: Metrovision, Inc., P.O. Box 8231, Falls Church, VA 22041
Information: Warren - N4MWU (703) 573-9619
Dick - WB3EPX (301) 439-8135

We would like to welcome Mike - KB4CVL back on ATV. We understand that he is experiencing problems with Fairfax County over his towers located at his QTH, and that he will be conducting a court battle over this matter. We wish you the best, Mike, and hope that you are successful in your effort to retain your towers.

We would like to thank Bernie - WD4O for his February article in Auto-Call on Ham Radio in Europe. The article was very informative as well as enjoyable to read. Bernie has made many trips to Europe, especially England and Italy, and has actually operated his radio equipment, namely has 2-meter handheld, while on his travels. He has been able to communicate with hams in England, via the 2-meter link connected to ATV stations in the London area. The members of Metrovision have been the beneficiaries of some very good video tapes of his travels which he has shown on the Sunday night ATV net.

We also would like to welcome Jim - KA4CKI on the ATV net. Jim's pictures have been nothing less than spectacular, considering the fact that they come all the way from Woodbridge. His pictures have been P4 quality in recent weeks, at least when he and others haven't been wiped out by Packet radio interference, which is becoming more of a problem than we even anticipated.

As many of you know, Metrovision was the first organized ATV repeater in the country, and has been in continuous operation since 1973. As an organization, Metrovision has come far in the past fifteen years, first with black and white, then with color. It is our hope that we can go even further in the years ahead. But in order to do so, we will need the cooperation of the Packet Radio community.

Some Packet operators, such as Dick Wareing - K3AKK, have shown some interest in trying to work out our interference problems, and for that we are grateful. Dick, however, is just one person in the growing area of Packet Radio; we need cooperation from others as well. What we probably need to do is have a meeting between Metrovision and some of the Packet people in order to express our views and try and work out something that will be beneficial to all parties concerned. Perhaps we can even demonstrate to the Packet people just what their interference does to our ATV pictures. We can do this by showing video tape of recent transmissions, and I can guarantee that Metrovision's position will be graphically demonstrated.

See you on ATV.

Dick, WB3EPX

Address Changes

Please advise Auto-Call promptly when you have a change of address. Third class mail is not forwarded and it costs us 30¢ every time we get an address correction notice from the post office. Please help us keep our costs down and our mailing records up-to-date.

Woodbridge Wireless, Inc

Meetings: 3rd Tuesday of each month, at 7:30 p.m.
Springwood Community Center, Corner of Springwood Drive and
Chauncher Court, just West of Woodbridge Airport.

Repeater: WB4FQR/R 147.84/24 and 449.9/444.9
WB4GJZ/R 223.18/78

Nets: Mondays, 8:00 p.m. local (0100 UTC) 147.84/24, 223.18/224/78
(the repeaters are linked for the net.)
Wednesdays, Slow CW at 8:00 p.m., 21.164 MHz
Saturdays at 9:00 p.m. - in new 10 Meter Novice band 28.460 MHz SSB

Mailing Address: P.O. Box 112, Woodbridge, VA 22194

March 5th and 6th saw the first major winter storm this year which enabled WWI to activate its Potomac Hospital emergency setup. The antennas worked fine. The weather did not deliver though (just as well). About 6 staffers were transported by volunteer drivers. The deep snow failed to materialize and as a result of inactivity, the station was shut down at midnight March 6th. Volunteers at the hospital included Jack, WD4KOF, John, WB4GJZ, Larry, K0LB and Jim, WJ4M.

To make friends for Amateur Radio, we have to start at home. Too many times a hobby becomes a separating influence between family members. Not so for one WWI-er (call deleted to protect the guilty). Seems as how he had gathered together all the paraphernalia necessary for his program on Emergency Preparedness for the club meeting and put it into his car. Then his XYL suggested a short dinner out. Well, dinner with his wife was so fine that he forgot about the club meeting entirely. 'Way to go OM! 'Way to go Mrs. OM! That's keeping the priorities straight.

Fortunately, Sherm Winnings, WB4RDV, volunteered to give an impromptu talk on his contest logging and duping program for IBM clones. Sherm will be demonstrating it at Field Day. The missed program will be presented at the April meeting (dinner schedule permitting). For the March meeting, Mr. Larry Eichel of the Boy Scouts of America will be giving a presentation on communications for the Boy Scout Jamboree to be held at Fort A. P. Hill this July. WWI has agreed to support the Jamboree by setting up and

tearing down the communications equipment. Operators will be provided by BSA.

We received a note from Bill Sutton, KB4NC, who now lives in Tennessee, between Gatlinburg and Cosby, at 1920-1930 foot altitude. He still plans to return to his Maryland place this summer for several weeks so we will again hear him on our repeater. Bill is known for throwing weekend fishing outings for WWI hams and their families. It's kind of a bring-your-own-camper (BYOC?) affair. Bill provides water, bath facilities, access to the Potomac. You provide fishing equipment, license and luck.

The Novice Technician class is progressing nicely. There are about 37 people attending and more asking about coming. WWI hopes to graduate a new crop of Amateurs in May. The class makeup is as diverse as Amateur Radio itself. The younger set seem to be well-versed in basic electronics (or they read the text!). They keep the instructor on his toes!

WA6JOY memorial contributions to Muscular Dystrophy closed after the meeting on March 21.

Dayton Hamvention, April 28-30, 1989. Sherm still has room in his RV. If you want to join up with some WWI'ers, give Sherm a call.

WJ4M

ANCIENT HISTORY

Remember that the United States was founded to avoid taxation! (ARNS News)

Maryland Mobileers

Address: P.O. Box 784, Severna Park, Md 21146
Meetings: First Friday of each month at 1930 hours. C.I.D. Building at
Crownsville State Hospital, Route 178 and Crownsville Road.
Repeater: 146.805 MHz (With members-only autopatch)
Traffic & Information Net: Monday evenings at 8:30 p.m. on 146.805 MHz
Mailing: MMARC, PO Box 784, Severna Park, MD 21146
For Information: Nancy Alley - KD3KJ, 7506 Sandalwood Ct., Hanover, MD 21076-1535

1989 Club Officers

President: AB3F
Vice Pres: K1LNJ
Secretary: WA3SCW
Treasurer: W3VVN
Director: KC3GY

Congratulations to MMARC President, AB3F, who retired from Civil Service on February 3rd with 33 years of government service. Rumor has it that Bob will be moving to Florida in the future.

KD3KJ and W3VVN are organizing the Skywarn program in Anne Arundel County. Operations are scheduled to begin from B.W.I. airport once the antenna is installed. Approximately 13 hams attended the first session of Skywarn training on February 13th.

Preparations continue for the annual MMARC Special Event station aboard the submarine U.S.S. Torsk (SS-423) in Baltimore's inner harbor.

WA3PJQ will operate from 0900 to 1600 on May 20th on 7240, 14,240, 21340 and 28340 kHz (+/- QRM) and on the MMARC repeater. Send a legal-size SASE to the club address to receive a certificate suitable for framing.

W3GOU won the coveted "Warbler Award" for January. The Warbler Award is presented monthly to the MMARC member who distinguishes himself by causing the most repeater time-outs.

MMARC members were treated in January to a fine slide presentation by K3NA about his recent DXpedition to Rotuma Island in the South Pacific.

Bill, WA3SCW

W1AW Renovation Fund Drive

**Yes! I Want to Support the
W1AW Renovation**

☐ Check enclosed for \$ _____

☐ Please charge my gift of \$ _____
to my _____ MC _____ VISA _____ AmEx _____

Card no. _____ Exp. date _____

Signature (required for charges)



All gifts will be acknowledged, and all who donate will receive a handsome certificate.

Name _____ Call _____
print exactly as you want it to appear on certificate

Street Address _____

City _____ State _____ ZIP _____

☐ I prefer to remain anonymous

Please make your check payable to W1AW Renovation Fund

All contributions are tax deductible
to the extent allowable by law,
as ARRL is a 501(c)(3) organization

Pentagon Amateur Radio Club

Meetings: Monthly, on the second Wednesday of the month.
Noon, PARC clubroom (5B272), Pentagon
Repeater: K4AF/R, 444.55 MHz
Mailing: P.O. Box 47063, Washington, DC 20050
Information: David G. Boyd - K9MX (202) 695-2020 or (703) 659-6241 or
Dick Lum - NH6E (202) 697-0477

Frustrated by the difficulties faced by many of our members (and prospective hams) whose duty and travel schedules make it difficult to get to local examinations, the Pentagon Amateur Radio Club (PARS) has established its own testing team. The first exam session had only one candidate, Colonel Bill Klein, but he was successful and is now licensed as N4VBW. He plans to upgrade to Advanced in our next exam session on 5 May. Our exams are open to the public, but anyone without a Pentagon pass will have to make prior arrangements with us so we can provide an escort into the building. Details are published elsewhere.

The highlights of the February meeting were the annual election of officers and the auctioning of surplus equipment. New officers, scheduled to take office at the end of March, are:

President: David G. Boyd - K9MX
1st V.P.: Dickson Lum - NH6E
2nd V.P.: Clifford Warrick - N6DLA
Secretary: George Bedinger - KK4AF
Treasurer: Walt Peterson - WB0QBL

The action, which included an all-mode Yaesu VHF station, a variety of memory keyers, tri-band beam and assorted other odds and ends, produced a huge number of sealed bids and netted more than \$300 for the club. We'll keep secret the winner of one of the items, who offered more than three times the next highest bid!

In an attempt to reduce intermodulation problems with the K4AF repeater, we moved it to 444.55 MHz. Things appear to have improved, but we're still experiencing occasional interference from all the equipment regularly transmitting in and about the Pentagon. The new amplifier is

up, however, and everything is working.

We have an attractive new QSL card and we'll be giving everyone a chance to pick up a new one when we operate as a special events station on Armed Forces Day, 20 May. K4AF will be on the air most of that day, fone and CW, and an SASE will bring those who worked the station one of our new cards.

Incidentally, the club is always happy to welcome visitors. If you have a military ID card or a Pentagon pass, just come on up at lunch time to 5B272 and knock on the door. If you don't have an ID or Pentagon pass, call and we can escort you in. Someone is in the club room from Noon to 1:00 every day (we usually eat lunch there), and you can reach us by calling 697-0630, or call one of the officers.

Spike, K9MX

The HANDI-HAM System is an international organization of able-bodied and disabled hams who help people with physical disabilities expand their world through Amateur Radio. The System matches students with one-to-one helpers, provides instruction material and support, and loans radio equipment.



Call or write the Courage HANDI-HAM System W0ZSW at Courage Center, 3915 Golden Valley Road, Golden Valley, Minnesota 55422, phone (612) 588-0811.

Anne Arundel Radio Club

- Meetings: 1st and 3rd Thursdays at 8:00 p.m.
Davidsonville Family Recreation Center, Queen Anne Bridge & Wayson Roads off MD Rt. 214 near Annapolis.
- On-the-air: Thursdays, 2030 Local time when there is no club meeting, on 147.7 5/105.
Tuesdays at 2030 local time on 28.410.
The Chesapeake Bay Weather & Traffic Net on 147.705/105 at 1100 and 1500 every weekend day and public holiday from April 1 to November 15.
Maryland Slow Net (MSN) every evening at 1930 on 3.7170 MHz
W3VPR Packet Bulletin Board on 145.09 MHz.
Novice Packet Bulletin Board on 223.40 MHz
- Address: P.O. Box 308, Davidsonville, MD 21035
- Information: Margaret (Holly) Bevan - N3BMB (301) 923-0229
-

The attendance at the Novice Classes on Saturday mornings is consistently in the low fifties, with several excused absences each week due to flu or conflicting schedules. The students are proving to be an eager, dedicated group. There could easily be close to fifty new Hams by the end of April from this class alone. Additional evening CW practice sessions have been added to meet the demand.

Bob Bruninga - WB4APR and some interested helpers have an ATV repeater transmitter installed on the water tower at the Naval Academy. Bob has been carrying around on the back seat of his car a PC Electronics 900 MHz down-converter and a 12-volt TV to check the signal strengths in various areas. As long as the TV image was detectable with the simple 3-inch vertical antenna atop the TV, stopping the car and hooking up the beam antenna would bring in good quality signals. Bob is expecting to put the system to good use in covering the various runs in the Annapolis area for which AARC members furnish communications.

A contesting group used club facilities in February to participate in the ARRL DXCW contest. Paul - KB3HH, Chris - N3GUA, John - KC3YS and Patrick - NG1W (during a surprise 2-hour visit) made 800+ CW contacts mostly to Europe and Asia, resulting in a club score of 377K. With good conditions on 10M, 386 QSOs to 56 countries were made on that band alone.

More members have upgraded. Gene Doyle - KD3JU, Nancy Alley - KD3KJ and Jim Darlack - KD3IP are now Extras. Chris Kuhn - N3GUA has moved up to Advanced and Connie Darlack - KA3TDB to Tech. Kevin Rogers and Eric Walter, members of the present Novice Class, skipped class on February 25th and March 4, to take and pass their novice and tech tests. Congratulations to all! Ken Wright, formerly N3GAW, now has the call NT3W.

Holly, N3BMB

No Hams Allowed!

A Six Flags Amusement Park in New Jersey reportedly is not permitting any ham radio gear to be brought into the park, claiming it causes interference to their communications. KA2QHD reports he was told that "Either I leave or the HT leaves." There were no signs posted and a no refund policy if he decided to leave rather than part with his HT. John suggests you may want to check before planning to visit any Six Flags parks.

Metropolitan Communications Network

Meetings: Quarterly, on the second Sunday of the month.
W.A.T.A.'s Community Meeting Room, 4729 14th Street N
(at Decatur Street), Washington, DC - unless otherwise announced.

Repeater: N3AGB/R, 52.250 MHz in; 53.250 MHz out. Accessible 14.950
MHz in the simplex mode.

On-the-air: Saturdays at 1900 hours.

Mailing: c/o Bob Sporn - WA3GGO, 9927 Cottrell Tr, Silver Spring, MD 20903.

Information: Bob Sporn - WA3GGO (301) 434-1719

Congratulations are in order to Paul Weaver KA3RXW, harmonic of Camille Weaver - KA3RUR and David Weaver - KA3PQS, who has upgraded his license to Technician. Paul is not resting on his laurels but intends to prepare to upgrade to General in the near future.

THE SUNDAY MORNING COFFEE NET (6 METER AM) ON 50.4 MHZ AT 0900. Check-ins have been running true to form. Charley Dohne - W3KZH is recuperating at home, having returned from Sibley Hospital. As soon as Charley can negotiate the stairs to his ham shack, he'll be back on the air.

MARYLAND FREE STATE SIX METER SIDEBAND NET: SUNDAYS AT 1900 HOURS ON 50.125 MHZ. Don't expect to hear Dick Logan - WB3EPX on the nets the last week-end in July. Dick and Nan Logan's son, Ensign Christopher, and his fiancée, Nan, will be married in Somerset, New Jersey on Saturday, July 29th. Christopher is completing his first year at Med school.

All the nets are running well. Join us.

Bob, WA3GGO

Roanoke Division League Planning Meeting

May 20 - 21

Ripley, West Virginia

Sponsored by

John C. Kanode, N4MM - Director, and James G. Walker, WD4HLZ - Vice Director

Hosted by Jackson County Amateur Radio Club

Are you interested in the future of Amateur Radio? Are you interested in ARRL activities and programs? Are you interested in taking part in the discussions and planning that will affect Amateur Radio and the direction ARRL will take in the future?

If your answer to the above is "YES," you will want to attend the Roanoke Division League Planning Meeting - LPM-89. Roanoke Division clubs are urged to send designated representatives to the meeting and all Division members of the American Radio Relay League are encouraged to attend. Participation from neighboring Divisions is also invited.

LPM 89 is an excellent opportunity for you and your club to play an active role in planning future activities of your ARRL through its Director, Vice Director and other League Officials. Luck Hurder, KY1T, Deputy Manager of Field Services, ARRL Headquarters will be in attendance. Take part in the planning for Amateur Radio into the 90s.

For further information, contact N4MM or WD4HLZ. N4MM phone (703) 837-1340

THE RALEIGH AMATEUR RADIO SOCIETY'S

17th ANNUAL NORTH CAROLINA ARRL



HAMFEST



N.C. STATE ARRL CONVENTION
JIM GRAHAM BUILDING, N.C. STATE FAIRGROUNDS
"110,000 SQ. FEET — ALL INDOORS"

APRIL 16, 1989

\$4.00 PRE-REGISTRATION

\$5.00 AT THE DOOR



FLEAMARKET

1 Fleamarket space (18-ft. table, 2 chairs) \$7.00;
5 or more tables \$6.00 each. Reg. Dealer Booths are
available — contact us. NO outside facilities available;
24 hr. Security — Vendor set-up Saturday,
4-10 pm; Sunday, 6-8 am. ALL vehicles must vacate the
building by 8 am. Please bring your own handcart.



HAMFEST SOCIAL SATURDAY NIGHT

A welcoming party will be held from 7-10 PM for all.
This will be held in the large meeting room in the
Hamfest building. Food, drink.



SPECIAL INTEREST MEETINGS

ARRL FORUM, narrated by John Kanode, N4MM,
Director, ARRL Roanoke Division

Q.C.W.A., NAVMARS, NTS, ARES, and other
meetings. Times will be announced at the Hamfest.



AMATEUR RADIO EXAMS

By Pre-registration until April 10. Send completed
FORM 610, photocopy of your current license, code/
theory Certificates (if applicable), indicate the highest
class of license you desire to be tested for, and a check
or money order for \$4.75 payable to R.A.R.S. to:

Vince Yakamavich, AA4MY

220 Carriage Trail

Raleigh, NC 27614

Telephone (919) 847-8512

The exams will be held in the HAMFEST BUILDING,
First Floor Meeting Room No. 2, starting PROMPTLY
at 7:30 am. Please bring your Original Current License
and a second form of identification such as a Driver's
License.

VENDOR INFO: Rollin Ransom, NF4P
(919) 269-4406



CW CONTEST IN THE BUILDING



HOMEBREW CONTEST IN THE BUILDING



TALK-IN SATURDAY AND SUNDAY

146.04/64 and 146.28/88



A FULL LINE FOOD SERVICE WILL BE AVAILABLE IN THE BUILDING DURING THE HAMFEST



ATTENTION LADIES

Ladies Hospitality Room and Program.
Refreshments and fellowship all day.

GENERAL INFO: RARS Hamfest
PO Box 17124
Raleigh, NC 27619



Laurel ARC

A Volunteer Examiner Coordinator

Meetings: 4th Wednesday of each month, 8:00 p.m. at Capitol College
on Springfield Road, Laurel.
Nets: 1st & 3rd Wednesday of each month, 8:30 p.m. on 147.54
Mail: P.O. Box 3039, Laurel, MD 20708
Information: John - W3GFS (301) 490-5286 or Frank - K3LDE (301) 498-2213

February 19 was our first outing of the year, with LARC members providing communication for the Washington Birthday Marathon. This event is sponsored each year by the DC Roadrunners and held at the Beltsville Agricultural Center. There were approximately 150 individual runners and forty 3-person relay teams. LARC members provided communication for safety over the 26 mile course and provided transportation for runners who were unable to complete the event. Although snow was predicted, it passed to the South and the runners had a beautiful Spring day with temperatures in the low 40s. Net control was provided by W3GFS and N3GNI. Other LARC members on the course included K3LDE, K3IOG, W3DQI, NA3T, WA4AVU, KA3QPU, N3FQA and N3DYG.

Our Technician/General theory course is progressing well, with 15 students being taught by W3DQI and WA3QGA.

As a follow-up to our 10th anniversary celebration of the club's founding (see March Auto-Call) W3DQI was presented with a plaque honoring him as the first president and club organizer.

We are currently planning and organizing two upcoming club events. N3FNF will be leading LARC's participation in the April 29 Mothers Against Drunk Driving (MADD) 10 km race to be held in the area around Capitol College. On May 13th, LARC will again help organize and provide communication for the annual Laurel Main Street Festival. This is a mile long "block party" which attracts upwards of 100,000 people.

Many more activities are planned for the remainder of the year. If you live in the greater Laurel area and are interested in joining an active club - come to a meeting, give us a call on 147.54, or call one of the club officers for information.

John, W3GFS

Now is it blue PAPER disks!

What could be the next revolution in data storage is digital *paper*! Developed by a British firm, this new material may provide the foundation for a number of relatively inexpensive optical storage devices. Digital paper looks like ordinary, blue tinted paper. However, when struck with a dot of laser light, the paper undergoes a chemical change that causes the area under the dot to turn red. Millions of these dots can be placed on a square inch of digital paper and then read back by the same laser. The one drawback is that it is not erasable. However, a digital paper disk will be removable and easy to store.

It may be that for about the price of a standard 40 megabyte hard disk you'll be able to buy a 500 to 1,000 megabyte digital paper disk. The first systems are expected to be introduced in the 1989-91 time frame by Iomega of Roy, Utah. (Information from the Boston Computer Society via Rochester, NY "RaRa Rag.")

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GAITHERSBURG, MD 20877**

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SHACK SALES

Noncommercial advertising of Amateur associated equipment is available to subscribers of AUTO-CALL at a rate of 3¢ per word -- with a \$1 minimum. Commercial vendors and nonsubscriber rate is 17¢ per word - with a \$5.50 (1 inch) minimum. Special headings or special spacing (e.g. one item per line) may be used but such ads will be charged at the column inch rate.

Estate sales for Widows Assistance handled by a FAR club will be published without cost.

Full name and address must be provided with each ad but need not be published. No ads will be accepted over the telephone and all ads must be pre-paid. Since no effort is made to investigate advertisers, no warranty can be implied.

Copy must be received by the 8th of the month preceding publication.

Need Antenna or tower work done?

Call L. Chertok - W3GRF.
(301) 297-4888 (C-12)

NORM'S ROTOR SERVICE

Rebuilt Rotors, Parts & Service
Call Norm Jeweler - K3LYW
677 Southlawn Lane
Rockville, MD 20850
(301) 340-0520
(C12)

WORLD RADIO, Amateur Radio's monthly newspaper can be delivered to your doorstep for only \$12 per year (\$22 overseas). Get the latest on how your fellow amateurs use their hobby to help others. Regular features are Aerials, Bob's Corner, Contest & Hamfest announcements, Digital Bus, DX World, MARS, Mobile, FCC Highlights, New Products, Propagation, QCWA, QRP, Six Shots!, Station Appearance, Traffic, VE Exams, 10-10 International News. Send your subscription to **WORLD RADIO**, 1779 Tribute Road, Ste. L, Sacramento, CA 95815.

FOR SALE: Mosley Classic 33 3-element tribander. Too big for my QTH. On ground, pick up only - \$125. Alan - N4LUS, Bethesda, MD (301) 229-7069 evenings or leave message. (04)

FOR SALE: Three element, three band, GEM Quad spider antenna, plus rotor, and 5 sections of Rohn 25-G tower. Can be used as two element. Each band fed separately. All good condition. Sold as unit only. \$425 firm. Buyer must take down. Doug Boswell, KJ4RO Clarksville, VA (804) 374-2998 (05)

WANTED: Ham equipment and other property. The Radio Club of Junior High School 22, NYC, Inc. is a non-profit organization, granted 501(C)(3) status by the IRS, incorporated with the goal of using the theme of ham radio to further and enhance the education of young people nationwide. Your property donation or financial support would be greatly appreciated and acknowledged with a receipt for your tax deductible contribution.

Meet the Crew From 22 in Dayton And at the Knoxville Hamfest

Come and relax at our flea market tables. Check in on 144.30 simplex. Please write us at: P.O. Box 1052, New York, NY 10002, or call our 'round the clock hotline: (516) 674-4072. Thanks you! Joseph Fairclough, Pres. RC of JHS 22 NYC, Inc. WB2JKJ (Paid C04)

FOR SALE OR TRADE: YAESU FL101 Transmitter. New - Used once! 200 watt SSB/CW, 80 watt AM/FSK, 117/230 volt option. Solid state except for finals. All band 160 thru 10 with two auxiliary band provisions. Will trade for 10-meter SSB transceiver or \$275. Bob Johnson - W3RZR, Box 431, Mt. Airy, MD 21771. (301) 829-0690 (04)

FOR SALE: DRAKE TR-4, RV4, AC4, fair condition. Needs some alignment but operates beautifully - \$195. YAESU FT207R 2-Meter hand-held, including PA-2 mobile DC-DC adapter, custom black leather case, Yaesu antenna, NC-9B charger, no battery, manual - \$130. Elmer, KB1RE, (401) 846-6514, Newport, Rhode Island. (04)

SHACK SALES

HOME QTH FOR RENT UNFURNISHED

1.5 miles outside Vienna, Virginia

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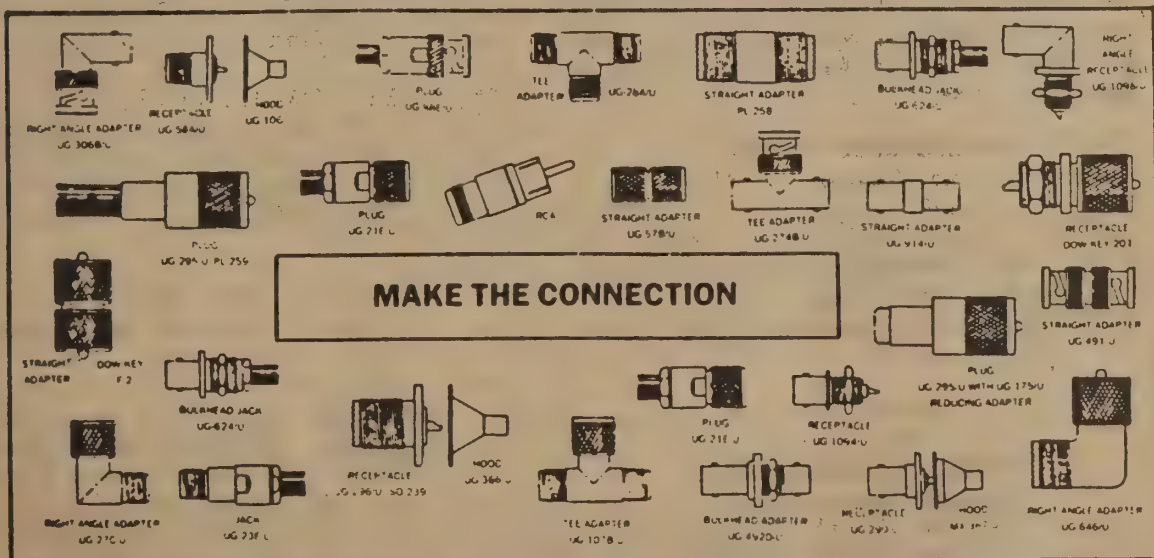
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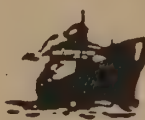
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For your benefit in determining spacing, type 80 (12 pitch) characters per line and 60 lines per page - including the space taken up by headings, photographs, etc. Either black-and-white or color photos can be used as long as the contrast is good. Master copy, which is to be reproduced directly, should be in black ink on white paper. Any copy can be reduced or enlarged as desired.

Columns from Foundation member clubs are eagerly solicited and any items of general Amateur Radio interest are most welcome. The editor does reserve the right to edit or reject any portion of any copy submitted and to make minor changes to make copy fit available space.

SHACK SALES

Shack Sales will **NOT** be accepted over the telephone. Remittance must accompany each ad. Full address must be provided for our reference but need not be published. Deadline for copy is the 8th of the month preceding the publication date.

Each ad must include the call sign or the full name of the advertiser. If the full address is not included in the ad, we prefer to indicate the city along with the telephone number so that readers will know whether a long-distance charge is involved. The entire telephone number - including city - counts as only one word. We do not count postal zip codes. Otherwise, each word, abbreviation, model number or group of letter/numbers is counted as one word.

For additional information see the next column regarding advertising rates or phone Auto-Call editor at (703) 536-8469.

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Noncommercial advertising of Amateur associated equipment is available to subscribers of Auto-Call at a rate of 3¢ per word -- with a \$1 minimum. Commercial vendors and nonsubscriber rate is 17¢ per word -- with a \$5.50 minimum.

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2	3 DOS	4 Antietam PG Wireless	5 BARC MARC	6 Anne Arundel	7 Mobileers Shenandoah	8 <u>EXAMS</u> Sterling Park Williamsburg,
9	10 PVRC	11 APL FARC	12 Laurel (Inf) MADRAS Pentagon --FAR--	13 Mt. Vernon No VA ARC	14 Alexandria SMARC Vienna	15 Cap. City Tri County
16	17 Ole VA Hams SPARC	18 Antietam Arlington BRATS Woodbridge	19 BARC Goddard MARC	20 Anne Arundel	21 RCARA Shenandoah	22
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